

RESUME

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Section A: EDUCATION and EXPERIENCE**EDUCATION**

- Doctor of Philosophy** (August 1991)
Computer Science, University of Wisconsin – Madison, U.S.A.
- Master of Science** (August 1987)
Computer Science, University of Wisconsin – Madison, U.S.A.
- Bachelor of Technology** (August 1985)
Electronics, Indian Institute of Technology – Madras, India.

EXPERIENCE

- Senior Professor** (September 2010 –)
Supercomputer Education & Research Centre and Dept. of Computer Science & Automation, Indian Institute of Science, Bangalore, India.
Research and teaching in database systems
- Professor** (September 2004 – September 2010)
Supercomputer Education & Research Centre and Dept. of Computer Science & Automation, Indian Institute of Science, Bangalore, India.
Research and teaching in database systems
- Associate Professor** (December 1998 – September 2004)
Supercomputer Education & Research Centre and Dept. of Computer Science & Automation, Indian Institute of Science, Bangalore, India.
Research and teaching in database systems and real-time systems
- Member, Technical Staff** (August 1999 – July 2000)
Lucent Bell Labs, Murray Hill, New Jersey, U.S.A.
(Sabbatical) Research in database systems
- Assistant Professor** (October 1992 – December 1998)
Supercomputer Education & Research Centre and Dept. of Computer Science & Automation, Indian Institute of Science, Bangalore, India.
Research and teaching in database systems and real-time systems
- Research Fellow** (September 1991 – September 1992)
Inst. for Systems Research, University of Maryland – College Park, U.S.A.
Principal researcher of the MANDATE project for development of database systems for enterprise network management.
- Summer Intern** (June 1990 – August 1990)
IBM T. J. Watson Research Center, Yorktown Heights, New York, U.S.A.
Design and performance analysis of the distributed WDL (Wait Depth Limited) concurrency control algorithm.
- Summer Intern** (June 1988 – August 1988)
Microelectronics and Computer Technology Corp., Austin, Texas, U.S.A.
Development of algorithms for database synthesis, loading and redistribution to aid in performance evaluation of the BUBBA parallel database machine.
- Research Assistant** (September 1988 – August 1991)
Computer Sciences Dept., University of Wisconsin – Madison, U.S.A.
Design, analysis and performance evaluation of scheduling and concurrency control algorithms for Real-Time Database Systems.

Teaching Assistant (August 1985 – May 1987)

Computer Sciences Dept., University of Wisconsin – Madison, U.S.A.

Graded assignments and exams, taught tutorials, and conducted laboratory sessions.

Section B: RESEARCH PUBLICATIONS and PATENTS/COPYRIGHTS**THESES**

1. “Transaction Scheduling in Firm Real-Time Database Systems”
J. Haritsa
Ph. D. Thesis, Univ. of Wisconsin (Madison), August 1991
2. “Adaptive Delta Pulse-Code Modulation”
J. Haritsa
B. Tech. Thesis, Indian Institute of Technology (Madras), August 1985

EDITOR of SPECIAL ISSUE

3. “Testing and Tuning of Database Systems”
J. Haritsa
IEEE Data Engineering Bulletin, vol. 31, no.1, March 2008
4. “Multi-lingual Information Systems”
J. Haritsa
IEEE Data Engineering Bulletin, vol. 30, no.1, March 2007

BOOK CHAPTERS

5. “Mining Association Rules under Privacy Constraints”
J. Haritsa *Privacy-Preserving Data Mining: Models and Algorithms*, Springer, eds. C. Aggarwal and P. Yu, 2008, Chapter 10, pgs. 237–264
6. “Real-Time Index Concurrency Control”
J. Haritsa and S. Seshadri
Real-time Database Systems: Architecture and Techniques, Kluwer Academic Publishers, vol. 593, Kluwer International Series in Engineering and Computer Science, eds. Tei-Wei Kuo and Kam-Yiu Lam, November 2000, Chapter 6, pgs. 59–74
7. “Secure Real-Time Transaction Processing”
J. Haritsa and B. George
Real-time Database Systems: Architecture and Techniques, Kluwer Academic Publishers, vol. 593, Kluwer International Series in Engineering and Computer Science, eds. Tei-Wei Kuo and Kam-Yiu Lam, November 2000, Chapter 11, pgs. 143–160
8. “Real-Time Commit Processing”
J. Haritsa, K. Ramamritham and R. Gupta
Real-time Database Systems: Architecture and Techniques, Kluwer Academic Publishers, vol. 593, Kluwer International Series in Engineering and Computer Science, eds. Tei-Wei Kuo and Kam-Yiu Lam, November 2000, Chapter 17, pgs. 229–246
9. “Firm Real-Time Concurrency Control”
J. Haritsa, M. Carey and M. Livny
Performance of Concurrency Control Mechanisms in Centralized Database Systems, Prentice-Hall, ed. V. Kumar, October 1995, Chapter 17, pgs. 461–493
10. “Dynamic Real-Time Optimistic Concurrency Control”
J. Haritsa, M. Carey and M. Livny
Advances in Real-Time Systems, IEEE Computer Society Press, eds. J. Stankovic and K. Ramamritham, October 1993, Chapter 9, pgs. 664–673

INTERNATIONAL REFEREED JOURNALS

11. "FRAPP: A Framework for High-Accuracy Privacy-Preserving Mining"
S. Agrawal, J. Haritsa and B. Prakash
Intl. Journal on Data Mining and Knowledge Discovery, Springer, vol. 18, no. 1, February 2009, pgs. 101-139
12. "Schema-conscious XML Indexing"
K. Leela and J. Haritsa
Information Systems, Elsevier Science Publishers, vol. 32, no. 2, April 2007, pgs. 344-364
13. "The Building of BODHI, a Bio-diversity Database System"
B. Srikanta, J. Haritsa and U. Sen
Information Systems, Elsevier Science Publishers, (Special Issue on Bioinformatics and Biological Data Management, Editors: M. Zaki and J. Wang), vol. 28, no. 4, June 2003, pgs. 347-367
14. "MIRROR: A State-Conscious Concurrency Control Protocol for Replicated Real-Time Databases"
M. Xiong, K. Ramamritham, J. Haritsa and J. Stankovic
Information Systems, Elsevier Science Publishers, vol. 27, no. 4, June 2002, pgs. 277-297
15. "On-line Scheduling to Maximize Task Completions"
S. Baruah, J. Haritsa and N. Sharma
Journal of Combinatorial Mathematics and Combinatorial Computing (JCMCC), vol. 39, 2001, pgs. 65-78
16. "DIASPORA: A Highly Distributed Web-Query Processing System"
M. Ramanath and J. Haritsa
World Wide Web Journal, Special Issue on WWW Data Management, Baltzer Science Publishers, vol. 3, no. 2, 2000, pgs. 111-124
17. "Quantifying the Utility of the Past in Mining Large Databases"
V. Pudi and J. Haritsa
Information Systems, Elsevier Science, vol. 25, no. 5, July 2000, pgs. 323-343
18. "Real-Time Index Concurrency Control"
J. Haritsa and S. Seshadri
IEEE Trans. on Knowledge and Data Engineering (TKDE), vol. 12, no. 3, May/June 2000, pgs. 429-447
19. "Secure Buffering in Firm Real-Time Database Systems"
B. George and J. Haritsa
Intl. Journal on Very Large Data Bases (VLDB), Special Issue on Best Papers from VLDB'98 Conference, Springer-Verlag, vol. 8, no. 3, February 2000, pgs. 178-198
20. "The PROMPT Real-Time Commit Protocol"
J. Haritsa, K. Ramamritham and R. Gupta
IEEE Trans. on Parallel and Distributed Systems (TPDS), vol. 11, no. 2, February 2000, pgs. 160-181
21. "Secure Concurrency Control in Firm Real-Time Database Systems"
B. George and J. Haritsa
Intl. Journal on Distributed and Parallel Databases (JDPD), Special Issue on Security, Kluwer Academic Publishers, vol. 8, no. 1, January 2000, pgs. 41-83
22. "Scheduling for Overload in Real-Time Systems"
S. Baruah and J. Haritsa
IEEE Trans. on Computers (ToC), vol. 46, no. 9, September 1997, pgs. 1034-1039

23. “Integrating Standard Transactions in Firm Real-Time Database Systems”
S. Thomas, S. Seshadri and J. Haritsa
Information Systems, Elsevier Science, vol. 21, no. 1, March 1996, pgs. 3–28
24. “Real-Time Index Concurrency Control”
J. Haritsa and S. Seshadri
ACM SIGMOD Record, vol. 25, no. 1, March 1996, pgs. 13–17
25. “MANDATE: Managing Networks using Database Technology”
J. Haritsa, M. Ball, N. Roussopoulos, A. Datta and J. Baras
IEEE Journal on Selected Areas in Communications (JSAC), vol. 11, no. 9, December 1993, pgs. 1360–1372
26. “Distributed Concurrency Control based on Limited Wait-Depth”
P. Franaszek, J. Haritsa, J. Robinson and A. Thomasian
IEEE Trans. on Parallel and Distributed Systems (TPDS), vol. 4, no. 11, November 1993, pgs. 1246–1264
27. “Value-Based Scheduling in Real-Time Database Systems”
J. Haritsa, M. Carey and M. Livny
Intl. Journal on Very Large Data Bases (VLDB), Springer-Verlag, vol. 2, no. 2, April 1993, pgs. 117–152
28. “Data Access Scheduling in Firm Real-Time Database Systems”
J. Haritsa, M. Carey and M. Livny
Journal of Real-Time Systems, Kluwer Academic Publishers, vol. 4, no. 4, September 1992, pgs. 203–241

HIGHLY-SELECTIVE INTERNATIONAL REFEREED CONFERENCES

29. “Peak Power Plays in Database Engines”
M. Kunjir, P. Birwa and J. Haritsa
Proc. of 15th Intl. Conf. on Extending DataBase Technology (EDBT), Berlin, Germany, March 2012
30. “The Picasso Database Query Optimizer Visualizer”
J. Haritsa
*Proc. of 36th Intl. Conf. on Very Large Data Bases (VLDB), Singapore, September 2010 (demo)
published as PVLDB Journal vol.3, no.2, September 2010*
31. “On the Stability of Plan Costs and the Costs of Plan Stability”
M. Abhirama, S. Bhaumik, A. Dey, H. Shrimal and J. Haritsa
*Proc. of 36th Intl. Conf. on Very Large Data Bases (VLDB), Singapore, September 2010
published as PVLDB Journal vol.3, no. 1, September 2010*
32. “Identifying Robust Plans through Plan Diagram Reduction”
Harish D., P. Darera and J. Haritsa
*Proc. of 34th Intl. Conf. on Very Large Data Bases (VLDB), Auckland, New Zealand, August 2008, pgs. 1124-1140
published as PVLDB Journal vol.1, no.1 August 2008, pgs. 1124-1140*
33. “Efficiently Approximating Query Optimizer Plan Diagrams”
A. Dey, S. Bhaumik, Harish D. and J. Haritsa
*Proc. of 34th Intl. Conf. on Very Large Data Bases (VLDB), Auckland, New Zealand, August 2008, pgs. 1325-1336
published as PVLDB Journal vol.1, no.2 August 2008, pgs. 1325-1336*

34. “On the Production of Anorexic Plan Diagrams”
Harish D., P. Darera and J. Haritsa
Proc. of 33rd Intl. Conf. on Very Large Data Bases (VLDB), Vienna, Austria, September 2007, pgs. 1081–1092
35. “Robust Heuristics for Scalable Optimization of Complex SQL Queries”
G. Das and J. Haritsa
Proc. of 23rd IEEE Intl. Conf. on Data Engineering (ICDE), Istanbul, Turkey, April 2007, pgs. 1281-1283 (poster)
36. “Holistic Schema Mappings for XML-on-RDBMS”
P. Patil and J. Haritsa
Proc. of 11th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Singapore, April 2006
published as *Database Systems for Advanced Applications, Springer, Lecture Notes in Computer Science (LNCS) 3882,*
eds. M. Lee, K. Tan and V. Wuwongse, pgs. 741-756
37. “On Pushing Multilingual Query Operators into Relational Engines”
A. Kumaran, P. Chowdary and J. Haritsa
Proc. of 22nd IEEE Intl. Conf. on Data Engineering (ICDE), Atlanta, USA, April 2006
38. “Integrating Code and Fragment Caching to Speedup Dynamic Webpage Construction”
Suresha and J. Haritsa
Proc. of 12th Intl. Conf. on Management of Data (COMAD), Hyderabad, India, December 2005, pgs. 112-121
39. “Search-Optimized Suffix-tree Storage for Biological Applications”
S. Bedathur and J. Haritsa
Proc. of 12th IEEE Intl. Conf. on High Performance Computing (HiPC), Goa, India, December 2005
published as *High Performance Computing - HiPC 2005, Springer, Lecture Notes in Computer Science (LNCS) 3769,*
eds. D. Bader, M. Parashar, V. Sridhar and V. Prasanna, pgs. 29-39
40. “Analyzing Plan Diagrams of Database Query Optimizers”
N. Reddy and J. Haritsa
Proc. of 31st Intl. Conf. on Very Large Data Bases (VLDB), Trondheim, Norway, August 2005, pgs. 1228-1240
41. “SemEQUAL: Multilingual Semantic Matching in Relational Systems”
A. Kumaran and J. Haritsa
Proc. of 10th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Beijing, China, April 2005
published as *Database Systems for Advanced Applications, Springer, Lecture Notes in Computer Science (LNCS) 3453,*
eds. L. Zhou, B. Ooi and X. Meng, pgs. 214-225
42. “A Framework for High-Accuracy Privacy-Preserving Mining”
S. Agrawal and J. Haritsa
Proc. of 21st IEEE Intl. Conf. on Data Engineering (ICDE), Tokyo, Japan, April 2005, pgs. 193-204
43. “IMAX: Incremental Maintenance of Schema-based XML Statistics”
M. Ramanath, L. Zhang, J. Freire and J. Haritsa

- Proc. of 21st IEEE Intl. Conf. on Data Engineering (ICDE), Tokyo, Japan, April 2005, pgs. 273-284*
44. “On Semantic Matching of Multilingual Attributes in Relational Systems”
A. Kumaran and J. Haritsa
Proc. of 13th ACM Intl. Conf. on Information and Knowledge Management (CIKM), Washington DC, USA, November 2004, pgs. 230-231 (poster)
 45. “Green Query Optimization: Taming Query Optimization Overheads through Plan Recycling”
P. Sarda and J. Haritsa
Proc. of 30th Intl. Conf. on Very Large Data Bases (VLDB), Toronto, Canada, September 2004, pgs. 1333-1336 (demo)
 46. “BODHI: A Database Habitat for Bio-diversity Information”
S. Bedathur, A. Kadlag, J. Freire and J. Haritsa
Proc. of ACM SIGMOD Intl. Conf. on Management of Data, Paris, France, June 2004, pgs. 953-954 (demo)
 47. “LexEQUAL: Multilexical Matching Operator in SQL”
A. Kumaran and J. Haritsa
Proc. of ACM SIGMOD Intl. Conf. on Management of Data, Paris, France, June 2004, pgs. 949-950 (demo)
 48. “Providing Diversity in K-Nearest Neighbor Query Results”
A. Jain, P. Sarda and J. Haritsa
Proc. of 8th Pacific Asia Conf. on Knowledge Discovery and Data Mining (PAKDD), Sydney, Australia, May 2004
published as *Advances in Knowledge Discovery and Data Mining, Springer, Lecture Notes in Artificial Intelligence (LNAI) 3056,*
eds. H. Dai, R. Srikant and C. Zhang, pgs. 404-413
 49. “On Reducing Dynamic Web Page Construction Times”
Suresha and J. Haritsa
Proc. of 6th Asia Pacific Web Conference (APWEB), Hangzhou, China, April 2004
published as *Advanced Web Technologies and Applications, Springer, Lecture Notes in Computer Science (LNCS) 3007,*
eds. J. Xu Yu, X. Lin, H. Lu and Y. Zhang, pgs. 722-731
 50. “SPINE: Putting Backbone into String Indexing”
N. Neelapala, R. Mittal and J. Haritsa
Proc. of 20th IEEE Intl. Conf. on Data Engineering (ICDE), Boston, USA, March 2004, pgs. 325-336
 51. “Engineering a Fast Online Persistent Suffix Tree Construction”
S. Bedathur and J. Haritsa
Proc. of 20th IEEE Intl. Conf. on Data Engineering (ICDE), Boston, USA, March 2004, pgs. 720-731
 52. “LexEQUAL: Supporting Multilexical Queries in SQL”
A. Kumaran and J. Haritsa
Proc. of 20th IEEE Intl. Conf. on Data Engineering (ICDE), Boston, USA, March 2004, pgs. 845 (poster)
 53. “LexEQUAL: Supporting Multi-script Matching in Database Systems”
A. Kumaran and J. Haritsa

- Proc. of 9th Intl. Conf. on Extending DataBase Technology (EDBT), Heraklion-Crete, Greece, March 2004*
published as *Advances in Database Technology - EDBT 2004, Springer, Lecture Notes in Computer Science (LNCS) 2992*,
eds. E. Bertino, S. Christodoulakis, D. Plexousakis, V. Christophides, M. Koubarakis, K. Bohm and E. Ferrari, pgs. 292-309
54. “On Addressing Efficiency Concerns in Privacy-Preserving Mining”
S. Agrawal, V. Krishnan and J. Haritsa
Proc. of 9th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Jeju Island, Korea, March 2004
published as *Database Systems for Advanced Applications, Springer, Lecture Notes in Computer Science (LNCS) 2973*,
eds. Y. Lee, J. Li, K. Y. Whang and D. Lee, pgs. 113-124
55. “On Incorporating Iceberg Queries in Query Processors”
K. Leela, P. Tolani and J. Haritsa
Proc. of 9th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Jeju Island, Korea, March 2004
published as *Database Systems for Advanced Applications, Springer, Lecture Notes in Computer Science (LNCS) 2973*,
eds. Y. Lee, J. Li, K. Y. Whang and D. Lee, pgs. 431-442
56. “Supporting Exploratory Queries in Database-Centric Web Applications”
A. Kadlag, A. Wanjari and J. Haritsa
Proc. of 9th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Jeju Island, Korea, March 2004
published as *Database Systems for Advanced Applications, Springer, Lecture Notes in Computer Science (LNCS) 2973*,
eds. Y. Lee, J. Li, K. Y. Whang and D. Lee, pgs. 594-605
57. “Searching for Efficient XML-to-Relational Mappings”
M. Ramanath, J. Freire, J. Haritsa and P. Roy
Proc. of XML Database Symposium (XSym), Berlin, Germany, September 2003
published as *Database and XML Technologies, Springer, Lecture Notes in Computer Science (LNCS) 2824*,
eds. Z. Bellahsene, A.B. Chaudhri, E. Rahm, M. Rys and R. Unland, pgs. 19-36
58. “On the Costs of Multi-Lingualism in Database Systems”
A. Kumaran and J. Haritsa
Proc. of 29th Intl. Conf. on Very Large Data Bases (VLDB), Berlin, Germany, September 2003,
pgs. 105-116
59. “PLASTIC: Reducing Query Optimization Overheads through Plan Recycling”
V. Sengar and J. Haritsa
Proc. of ACM SIGMOD Intl. Conf. on Management of Data, San Diego, California, USA, June 2003, pg. 676 (demo)
60. “Reducing Rule Covers with Deterministic Error Bounds”
V. Pudi and J. Haritsa
Proc. of 7th Pacific Asia Conf. on Knowledge Discovery and Data Mining (PAKDD), Seoul, Korea, May 2003
published as *Advances in Knowledge Discovery and Data Mining, Springer, Lecture Notes in*

- Artificial Intelligence (LNAI) 2637,*
eds. K. Shim, J. Srivastava, K. Y. Whang and B. K. Yi, pgs. 313-324
61. “Bridging the XML-Relational Divide with LegoDB: A Demonstration”
P. Bohannon, J. Freire, J. Haritsa, M. Ramanath, P. Roy and J. Simeon
Proc. of 19th IEEE Intl. Conf. on Data Engineering (ICDE), Bangalore, India, March 2003,
pgs. 759-761 (demo)
 62. “Generalized Closed Itemsets: A Technique for Improving the Conciseness of Rule Covers”
V. Pudi and J. Haritsa
Proc. of 19th IEEE Intl. Conf. on Data Engineering (ICDE), Bangalore, India, March 2003,
pgs. 714-716 (poster)
 63. “Plan Selection based on Query Clustering”
A. Ghosh, J. Parikh, V. Sengar and J. Haritsa
Proc. of 28th Intl. Conf. on Very Large Data Bases (VLDB), Hong Kong, China, August 2002,
pgs. 179-190
 64. “Maintaining Data Privacy in Association Rule Mining”
S. Rizvi and J. Haritsa
Proc. of 28th Intl. Conf. on Very Large Data Bases (VLDB), Hong Kong, China, August 2002,
pgs. 682-693
 65. “LegoDB: Customizing Relational Storage for XML Documents”
P. Bohannon, J. Freire, J. Haritsa, M. Ramanath, P. Roy and J. Simeon
Proc. of 28th Intl. Conf. on Very Large Data Bases (VLDB), Hong Kong, China, August 2002,
pgs. 1091-1094 (demo)
 66. “StatiX: Making XML Count”
J. Freire, J. Haritsa, M. Ramanath, P. Roy and J. Simeon
Proc. of ACM SIGMOD Intl. Conf. on Management of Data, Madison, Wisconsin, USA, May
2002, pgs. 181-192
 67. “On the Efficiency of Association Rule Mining Algorithms”
V. Pudi and J. Haritsa
Proc. of 6th Pacific Asia Conf. on Knowledge Discovery and Data Mining (PAKDD), Taipei,
Taiwan, May 2002
published as *Advances in Knowledge Discovery and Data Mining, Springer, Lecture Notes in*
Artificial Intelligence (LNAI) 2336,
eds. M. Chen, P. Yu and B. Liu, pgs. 80-91
 68. “XGrind: A Query-Friendly XML Compressor”
P. Tolani and J. Haritsa
Proc. of 18th IEEE Intl. Conf. on Data Engineering (ICDE), San Jose, USA, February 2002,
pgs. 225-234
 69. “How Good are Association-Rule Mining Algorithms?”
V. Pudi and J. Haritsa
Proc. of 18th IEEE Intl. Conf. on Data Engineering (ICDE), San Jose, USA, February 2002,
pg. 276 (poster)
 70. “Design and Implementation of a Biodiversity Information Management System”
B. Srikanta and J. Haritsa
Proc. of 10th Intl. Conf. on Management of Data (COMAD), Pune, India, December 2000, pgs.
121-134
[This paper received the Best Paper award.]

71. "Adding PEP to Real-Time Distributed Commit Processing"
J. Haritsa and K. Ramamritham
Proc. of 21st IEEE Real-Time Systems Symposium (RTSS), Orlando, Florida, USA, November 2000, pgs. 37–46
72. "Turbo-charging Vertical Mining of Large Databases"
P. Shenoy, J. Haritsa, S. Sudarshan, G. Bhalotia, M. Bawa and D. Shah
Proc. of ACM SIGMOD Intl. Conf. on Management of Data, Dallas, Texas, USA, May 2000, pgs. 22–33
73. "Distributed Query Processing on the Web"
N. Gupta, J. Haritsa and M. Ramanath
Proc. of 16th IEEE Intl. Conf. on Data Engineering (ICDE), San Diego, USA, February 2000, pg. 84 (poster)
74. "Secure Buffering in Firm Real-Time Database Systems"
B. George and J. Haritsa
Proc. of 24th Intl. Conf. on Very Large Data Bases (VLDB), New York, USA, August 1998, pgs. 464–475
[This paper was selected in the Best Paper Category for which 6 out of the 51 accepted papers were chosen.]
75. "More Optimism about Real-Time Distributed Commit Processing"
R. Gupta, J. Haritsa and K. Ramamritham
Proc. of 18th IEEE Real-Time Systems Symposium (RTSS), San Francisco, California, USA, December 1997, pgs. 123–133
76. "Secure Transaction Processing in Firm Real-Time Database Systems"
B. George and J. Haritsa
Proc. of ACM SIGMOD Intl. Conf. on Management of Data, Tucson, Arizona, USA, May 1997, pgs. 462–473
77. "Revisiting Commit Processing in Distributed Database Systems"
R. Gupta, J. Haritsa and K. Ramamritham
Proc. of ACM SIGMOD Intl. Conf. on Management of Data, Tucson, Arizona, USA, May 1997, pgs. 486–497
78. "Commit Processing in Distributed Real-Time Database Systems"
R. Gupta, J. Haritsa, K. Ramamritham and S. Seshadri
Proc. of 17th IEEE Real-Time Systems Symposium (RTSS), Washington, DC, USA, December 1996, pgs. 220–229
79. "Index Concurrency Control in Firm Real-Time DBMS"
B. Goyal, J. Haritsa, S. Seshadri and V. Srinivasan
Proc. of 21st Intl. Conf. on Very Large Data Bases (VLDB), Zurich, Switzerland, September 1995, pgs. 146–157
80. "On-Line Scheduling to Maximize Task Completions"
S. Baruah, J. Haritsa and N. Sharma
Proc. of 15th IEEE Real-Time Systems Symposium (RTSS), San Juan, Puerto Rico, U.S.A., December 1994, pgs. 228–236
81. "Approximate Analysis of Real-Time Database Systems"
J. Haritsa
Proc. of 10th IEEE Intl. Conf. on Data Engineering (ICDE), Houston, Texas, U.S.A., February 1994, pgs. 10–19

82. “ROBUST: A Hardware Solution to Real-Time Overload”
S. Baruah and J. Haritsa
Proc. of 13th ACM SIGMETRICS Conf. on Measurement and Modeling of Computer Systems, Santa Clara, California, U.S.A., May 1993, pgs. 207–216
83. “Distributed Concurrency Control with Limited Wait-Depth”
P. Franaszek, J. Haritsa, J. Robinson and A. Thomasian
Proc. of 12th IEEE Intl. Conf. on Distributed Computing Systems (ICDCS), Yokohama, Japan, June 1992, pgs. 160–167
84. “Earliest Deadline Scheduling for Real-Time Database Systems”
J. Haritsa, M. Livny and M. Carey
Proc. of 12th IEEE Real-Time Systems Symposium (RTSS), San Antonio, Texas, U.S.A., December 1991, pgs. 232–242
85. “Dynamic Real-Time Optimistic Concurrency Control”
J. Haritsa, M. Carey and M. Livny
Proc. of 11th IEEE Real-Time Systems Symposium (RTSS), Lake Buena Vista, Florida, U.S.A., December 1990, pgs. 94–103
86. “On Being Optimistic about Real-Time Constraints”
J. Haritsa, M. Carey and M. Livny
Proc. of 9th ACM Symp. on Principles of Database Systems (PODS), Nashville, Tennessee, U.S.A., April 1990, pgs. 331–343

OTHER REFEREED CONFERENCES

87. “An Integrated Approach for Reducing Dynamic Web Page Construction Time”
Suresha and J. Haritsa
Proc. of 10th National Conf. on Communications (NCC), Bangalore, India, January 2004, pgs. 489-493
88. “ARMOR: Association Rule Mining based on ORacle”
V. Pudi and J. Haritsa
Proc. of ICDM Workshop on Frequent Itemset Mining Implementations (FIMI), Melbourne, Florida, USA, November 2003
published as *CEUR Workshop Proceedings, Deutsche Bibliothek, Vol. 90,*
eds. B. Goethals and M. Zaki
89. “On Database Support for Multilingual Environments”
A. Kumaran and J. Haritsa
Proc. of 13th Intl. Workshop on Research Issues in Data Engineering (Multilingual Information Management), RIDE-2003, Hyderabad, India, March 2003, pgs. 23-30
90. “Building Classifiers With Unrepresentative Training Instances: Experiences From The KDD Cup 2001 Competition”,
A. Bhamidipaty, A. Janakiraman, S. Sarawagi and J. Haritsa
Proc. of 1st Intl. Workshop on Data Mining Lessons Learned (DMLL), Sydney, Australia, July 2002
91. “MIRROR: A State-Conscious Concurrency Control Protocol for Replicated Real-Time Databases” (extended version)
M. Xiong, K. Ramamritham, J. Haritsa and J. Stankovic
Proc. of 5th IEEE Real-Time Technology and Applications Symposium (RTAS), Vancouver, Canada, June 1999, pgs. 100–110

92. "MIRROR: A State-Conscious Concurrency Control Protocol for Replicated Real-Time Databases" (short version)
M. Xiong, K. Ramamritham, J. Haritsa and J. Stankovic
Proc. of IEEE Intl. Workshop on E-Commerce and Web-based Information Systems (WECWIS), Santa Clara, USA, April 1999, pgs. 20–29
93. "A Database System for Interconnect Parasitics"
N. S. Arun, M. Krishna and J. Haritsa
Proc. of Intl. Conf. on Management of Data (COMAD), Hyderabad, India, December 1998
published as *Databases for the Millennium 2000, Tata-McGraw-Hill, 1999,*
ed. C. S. R. Prabhhu, pgs. 429-446
94. "Secure Real-Time Database Systems"
B. George and J. Haritsa
Proc. of Natl. Conf. on Software for Real-Time Systems, Cochin, India, January 1996, pgs. 183–191
95. "Commit Processing in Distributed Real-Time Database Systems"
R. Gupta and J. Haritsa
Proc. of Natl. Conf. on Software for Real-Time Systems, Cochin, India, January 1996, pgs. 195–204
96. "REVI: A Recreatable Text Editor"
R. Sridharan and J. Haritsa
Proc. of 3rd Conf. on Advanced Computing (ADCOMP), Bangalore, India, December 1995,
published as *Current Trends in Advanced Computing, Tata-McGraw-Hill, 1995,*
eds. P. Rao, M. Periasamy, Y. Ramakrishnan, S. Sasikumar, S. Sinha, pgs. 244–251
97. "Efficient Fair Disk Schedulers"
T. Pradhan and J. Haritsa
Proc. of 3rd Conf. on Advanced Computing (ADCOMP), Bangalore, India, December 1995,
published as *Current Trends in Advanced Computing, Tata-McGraw-Hill, 1995,*
eds. P. Rao, M. Periasamy, Y. Ramakrishnan, S. Sasikumar, S. Sinha, pgs. 236–243
98. "Database Compression: A Performance Enhancement Tool"
G. Ray, J. Haritsa and S. Seshadri
Proc. of Intl. Conf. on Management of Data (COMAD), Pune, India, December 1995,
published as *Advances in Data Management '95, Tata-McGraw-Hill, 1995,*
eds. S. Chaudhuri, A. Deshpande and R. Krishnamurthy, pgs. 106–125
99. "OSHADHI: A Biodiversity Information System"
R. Vidya and J. Haritsa
Proc. of Intl. Conf. on Management of Data (COMAD), Pune, India, December 1995,
published as *Advances in Data Management '95, Tata-McGraw-Hill, 1995,*
eds. S. Chaudhuri, A. Deshpande and R. Krishnamurthy, pgs. 239–258
100. "Fair Disk Schedulers for High Performance Computing Systems"
J. Haritsa and T. Pradhan
Proc. of Intl. Conf. on High Performance Computing (HIPC), New Delhi, India, December 1995,
published as *High Performance Computing, Tata-McGraw-Hill, 1995,*
eds. S. Sahni, V. Prasanna and V. Bhatkar, pgs. 136–141
101. "ICON: A System for Implementing Constraints in Object-based Networks"
S. Goli, J. Haritsa and N. Roussopoulos

- Proc. of 4th IEEE Intl. Symp. on Integrated Network Management (INMS), Santa Barbara, California, U.S.A., May 1995 pgs. 536–549*
102. “Disk Scheduling for Multimedia Database Applications”
J. Haritsa and M. B. Karthikeyan
Proc. of 6th Intl. Conf. on Management of Data (COMAD), Bangalore, India, December 1994, published as Advances in Data Management, Tata-McGraw-Hill, 1994, eds. P. Sadanandan and S. Chakravarthy, pgs. 303–316
103. “Design Issues for Extensible Concurrency Control Mechanisms”
S. Seshadri, S. Thomas and J. Haritsa
Proc. of 6th Intl. Conf. on Management of Data (COMAD), Bangalore, India, December 1994, published as Advances in Data Management, Tata-McGraw-Hill, 1994, eds. P. Sadanandan and S. Chakravarthy, pgs. 263–282
104. “Design of the MANDATE MIB”
J. Haritsa, M. Ball, N. Roussopoulos, J. Baras and A. Datta
Proc. of 3rd IEEE Intl. Symp. on Integrated Network Management (INMS), San Francisco, California, U.S.A., April 1993, pgs. 85–96
105. “Preliminary Results on Combining Value and Deadline in Real-Time Database Systems”
J. Haritsa, M. Carey and M. Livny
Proc. of 3rd Intl. Conf. on Management of Data (COMAD), Bombay, India, December 1991, published as Advances in Data Management, Tata-McGraw-Hill, 1991, eds. P. Sadanandan and T. M. Vijayaraman, pgs. 325–343

INVITED PAPERS

106. “PLAN DIAGRAMS: Visualizing Database Query Optimizers”
J. Haritsa
Annals of Indian National Academy of Engineering (INAE), Volume VIII, April 2011, pgs. 59-68
107. “The KNDN Problem: A Quest for Unity in Diversity ”
J. Haritsa
IEEE Data Engineering Bulletin, 32(4), December 2009, pgs. 15-22
108. “XML Compression” (encyclopedia entry)
J. Haritsa and D. Suciu
Encyclopedia of Database Systems, Springer, eds. L. Liu and T. Ozsu, November 2009, pgs. 3579-3583
109. “Negative Databases ”
J. Haritsa
Journal of Biosciences, 32(2), March 2007, pgs. 181-182
110. “A Holistic XML-to-RDBMS Mapper (Demonstration)”
P. Patil and J. Haritsa
Proc. of 12th Intl. Conf. on Management of Data (COMAD), Hyderabad, India, December 2005, pgs. 207-210
111. “The Web is the Database”
J. Haritsa
Intl. Workshop on Databases in Networked Information Systems (DNIS2000), Aizu-Wakamatsu City, Japan, December 2000, published as Springer Lecture Notes in Computer Science (LNCS) Series No. 1966, ed. S. Bhalla, pgs. 91-106

112. "Real-Time Database Systems in the New Millenium"
J. Haritsa and K. Ramamritham
Guest Editorial, Journal of Real-Time Systems, Special Issue on Real-time Databases, vol. 19, no. 3, November 2000, pgs. 205-208

POPULAR ARTICLES

113. "Reminiscences on Influential Papers"
J. Haritsa
ACM SIGMOD Record, vol. 34, no. 2, June 2005, pg. 68
114. "Database Mining"
J. Haritsa
RESONANCE, Journal of Science Education, vol. 1, no. 10, October 1996, pgs. 63-75
115. "An Ivory Tower View of Software Property Rights"
S. Tripathi and J. Haritsa
Proc. of Intl. Conf. on Intellectual Property Rights in Computer Software and their Impact on Developing Countries, Bangalore, India, August 1993, pgs. 46-48

TECHNICAL REPORTS

116. "Stability-conscious Query Optimization"
M. Abhirama, S. Bhaumik, A. Dey, H. Shrimal and J. Haritsa
TR-2009-01, DSL/SERC
117. "Efficient Generation of Approximate Plan Diagrams"
A. Dey, S. Bhaumik, Harish D. and J. Haritsa
TR-2008-01, DSL/SERC
118. "Robust Plans through Plan Diagram Reduction"
Harish D., P. Darera and J. Haritsa
TR-2007-02, DSL/SERC
119. "Reduction of Query Optimizer Plan Diagrams"
Harish D., P. Darera and J. Haritsa
TR-2007-01, DSL/SERC
120. "Scalable Optimization of Complex SQL Queries"
G. Das and J. Haritsa
TR-2006-01, DSL/SERC
121. "Holistic Schema Mappings for XML-on-RDBMS"
P. Patil and J. Haritsa
TR-2005-02, DSL/SERC
122. "On Pushing Multilingual Query Operators inside Relational Engines"
A. Kumaran, P. Chowdary and J. Haritsa
TR-2005-01, DSL/SERC
123. "IMAX: Incremental maintenance of schema-based XML statistics"
M. Ramanath, L. Zhang, J. Freire and J. Haritsa
TR-2004-05, DSL/SERC
124. "Search-Optimized Persistent Suffix Tree Storage for Biological Applications"
S. Bedathur and J. Haritsa
TR-2004-04, DSL/SERC

125. "Multilingual Semantic Matching Operator in SQL"
A. Kumaran and J. Haritsa
TR-2004-03, DSL/SERC
126. "A Framework for High-Accuracy Privacy-Preserving Mining"
S. Agrawal and J. Haritsa
TR-2004-02, DSL/SERC
127. "Supporting Multi-lexical Matching in Database Systems"
A. Kumaran and J. Haritsa
TR-2004-01, DSL/SERC
128. "A Horizontally-Compacted Trie Index for Strings"
N. Neelapala, R. Mittal and J. Haritsa
TR-2003-05, DSL/SERC
129. "Providing Diversity in K-Nearest Neighbor Query Results"
A. Jain, P. Sarda and J. Haritsa
TR-2003-04, DSL/SERC
130. "Providing Efficiency in Privacy-Preserving Mining"
S. Agrawal, V. Krishnan and J. Haritsa
TR-2003-03, DSL/SERC
131. "Supporting Exploratory Queries in Databases"
A. Kadlag, A. Wanjari, J. Freire and J. Haritsa
TR-2003-02, DSL/SERC
132. "Searching for Efficient XML-to-Relational Mappings"
M. Ramanath, J. Freire, J. Haritsa and P. Roy
TR-2003-01, DSL/SERC
133. "On Incorporating Iceberg Queries in Query Processors"
L. Krishna, P. Tolani and J. Haritsa
TR-2002-01, DSL/SERC
134. "SphinX: Schema-conscious XML Indexing"
L. Krishna and J. Haritsa
TR-2001-04, DSL/SERC
135. "XGRIND: A Query-friendly XML Compressor"
P. Tolani and J. Haritsa
TR-2001-03, DSL/SERC
136. "The Building of BODHI, a Bio-diversity Database System"
B. Srikanta, J. Haritsa and U. Sen
TR-2001-02, DSL/SERC
137. "On the Optimality of Association-rule Mining Algorithms"
V. Pudi and J. Haritsa
TR-2001-01, DSL/SERC
138. "Adding PEP to Real-Time Distributed Commit Processing"
J. Haritsa and K. Ramamritham
TR-2000-03, DSL/SERC
139. "Turbo-charging Vertical Mining of Large Databases"
P. Shenoy, J. Haritsa, S. Sudarshan, G. Bhalotia, M. Bawa and D. Shah
TR-2000-02, DSL/SERC

140. "Quantifying the Utility of the Past in Mining Large Databases"
V. Pudi and J. Haritsa
TR-2000-01, DSL/SERC
141. "Distributed Query Processing on the Web"
N. Gupta, J. Haritsa and M. Ramanath
TR-1999-01, DSL/SERC
142. "More Optimism about Real-Time Distributed Commit Processing"
R. Gupta, J. Haritsa and K. Ramamritham
TR-1997-04, DSL/SERC
143. "Robust Real-Time Index Concurrency Control"
S. R. Narayanan, B. Goyal, J. Haritsa and S. Seshadri
TR-1997-03, DSL/SERC
144. "Secure Processing in Real-Time Database Systems"
B. George and J. Haritsa
TR-1997-02, DSL/SERC
145. "Revisiting Commit Processing in Distributed Database Systems"
R. Gupta, J. Haritsa and K. Ramamritham
TR-1997-01, DSL/SERC
146. "Security Costs in Real-Time Database Systems"
B. George and J. Haritsa
TR-1996-02, DSL/SERC
147. "Commit Processing in Distributed Real-Time Database Systems"
R. Gupta, J. Haritsa, K. Ramamritham and S. Seshadri
TR-1996-01, DSL/SERC

PROJECT REPORTS

148. "Database Engine for Sequences"
J. Haritsa
PR-2008-01, DSL/SERC
149. "Design and Implementation of a Bio-diversity Database Management System"
J. Haritsa, M. Gadgil and V. Nanjundiah
PR-2001-01, DSL/SERC
150. "MINTO: A Software Tool for Mining Manufacturing Databases"
J. Haritsa
PR-1999-01, DSL/SERC
151. "Design and Analysis of Data Mining Algorithms"
J. Haritsa
PR-1998-01, DSL/SERC
152. "DIAS: An Object-Oriented Database for Interconnect Analysis"
J. Haritsa
PR-1997-02, DSL/SERC
153. "MIDAS: A Database Design for Flexible Manufacturing Systems"
J. Haritsa and V. Rajaraman
PR-1997-01, DSL/SERC

PATENTS and COPYRIGHTS

- US Patent pending: “*Method and Apparatus for Improved Call Handling and Service Based On Caller’s Demographic Information*”, Provisional Application No. 60/205,038 filed May 18, 2000; Published Application No. 20020046030 on April 18, 2002.
- Copyright Ownership received for “*Picasso Database Query Optimizer Visualizer*” software from Copyright Office, Govt. of India, issued on May 1, 2006 [Registration No. SW-2016/2006].

This software has been licensed to major international database vendors and academic institutions.

Section C: MAJOR SPONSORED PROJECTS

No.	Title	Sponsor	Role	Amount (in lakhs)	Duration (in years)	Status
1	Tightly Coupling Keyword Query Interfaces with Structured Database Repositories	DST	PI	41.7	3 (11/2010-10/2013)	In progress
2	Database Engines for Sequences	DST	PI	52.2	5 (1/2003-12/2007)	Completed
3	Computational Genomics, Genomics Initiative at IISc	DBT	Co-PI	163.9	5 (6/2002-5/2007)	Completed
4	RDBMS Internals	HP ISO	PI	3.0	8 days (2003)	Completed
5	Design and Implementation of a Bio-diversity DBMS	DBT	PI	9.7	3 (9/98-3/01)	Completed
6	Design and Analysis of Data Mining Algorithms	Hitachi	PI	3.1	0.5 (12/97-5/98)	Completed
7	Minto: A Software Tool for Mining Manufacturing Databases	DST	PI	11.3	2 (01/97-03/99)	Completed
8	A Distributed Object-Oriented Simulation Testbed for Manufacturing Systems	DST	Co-PI	5.0	2 (12/94-11/96)	Completed
9	DIAS: An Object-Oriented Database for Interconnect Analysis	TI India	PI	2.7	1.5 (07/95-12/96)	Completed
10	MIDAS: A Database Design for Flexible Manufacturing Systems	DST	PI	9.1	2 (02/95-01/97)	Completed

Section D: STUDENT THESES**Doctor of Philosophy (PhD)**

1. “Robust Query Processing”
Anshuman Dutt (in progress)
2. “Caching Techniques for Dynamic Web Servers”
Suresha (June 2007)
3. “BODHI: A Database Engine for Biological Applications”
B. J. Srikanta (April 2006)
4. “Schema-based Statistics and Storage for XML”
M. Ramanath (April 2006)
5. “Multilingual Information Processing on Relational Database Architectures”
A. Kumaran (December 2005) [received IISc Best Thesis award]
6. “Efficient Discovery of Concise Association Rules from Large Databases”
Vikram Pudi (April 2003) [received IISc Best Thesis award]
7. “Secure Real-Time Transaction Processing”
Binto George (December 1998) [nominated for IISc Best Thesis award]

Master of Science (Engineering) (MSc(Engg))

1. “Visualizing XML query optimizers”
Bruhathi H S (in progress)
2. “Optimizing Suffix Tree Layouts”
Rajul Bhavsar (August 2011)
3. “Efficiently Approximating Query Optimizer Diagrams”
Atreyee Dey (August 2009)
4. “Reduction of Query Optimizer Plan Diagrams”
Pooja Darera (December 2007) [received Best Thesis award]
5. “On Holistic Source-Centric Mappings for XML-on-RDBMS”
Priti Patil (September 2005)
6. “Distributed Web Query Processing Systems”
Maya Ramanath (March 2000)
7. “Commit Processing in Distributed Real-Time DBMS”
Ramesh Kumar Gupta (July 1997) [nominated for IISc Best Thesis award]
8. “Design and Implementation of An OODBMS for VLSI Interconnect Parasitic Analysis”
N. S. Arun (July 1996) [nominated for IISc Best Thesis award]

Master of Engineering (ME)

1. “Peak Power Modeling in Database Engines”
Puneet Kumar Birwa (July 2011)
2. “On the Generation of Top-K Query Execution Plans”
Hiranya Sonowal (July 2011)
3. “Generation and Storage of Large Synthetic Fingerprint Database”
Afzalul Haque Ansari (July 2011)

4. "Large-scale Fingerprint Identification Systems"
Kushal Wadhvani (July 2011)
5. "Efficient and Robust Generation of Plans in Top-down Optimizers"
Rahul Pandit (July 2011)
6. "VISTA: A View of Effective Sampling for Frequent Itemset Mining"
Mudireddy Jagadesh Babu (July 2011)
7. "On Efficient Identification of Robust Plans and Efficient Production of Plan Diagrams"
Anshuman Dutt (July 2010)
8. "Exploring Opportunities of Power Savings in Database Query Optimizers"
Mayuresh Kunjir (July 2010)
9. "Characterizing Power Performance of Database Query Optimizers"
Mahesh Bale (July 2010)
10. "Optimizing MDX queries"
Aditya Mantramurthy (July 2010)
11. "On the Stability of Plan Costs and the Costs of Plan Stability"
M. Abhirama (August 2009)
12. "Design and Implementation of Picasso 2.0 and A Glimpse of the Future Version"
Ravi Shetye (July 2009)
13. "Characterizing Plan Diagram Reduction Quality and Efficiency"
Harsh Shrimal (June 2009)
14. "Efficient Generation of Query Optimizer Plan Diagrams"
Sourjya Bhaumik (June 2009)
15. "SIGHT and SEER: Efficient Production and Reduction of Query Optimizer Plan Diagrams"
Harish D (July 2008)
16. "Dataless Modelling of Large Databases"
Gourav Kumar Sakargayan (July 2008)
17. "On the Stability of Plan Costs and the Costs of Plan Stability"
Abhijit Pai (July 2008)
18. "Analyzing Cache Consciousness of Main Memory Suffix Trees"
Shivashankar J (July 2008)
19. "Integrating Multi-lingual Database Operators on PostgreSQL"
Rupesh Bajaj (July 2007)
20. "Picasso 1.0: Design and Analysis"
Tarun Ramsinghani (July 2007)
21. "Picasso: Design and Implementation of a Database Optimizer Analyzer"
Mohammed Aslam (July 2006)
22. "Picasso: Analyzing and Characterizing Relational Query Optimizers"
Akshat Nair (July 2006)
23. "Robust Heuristics for Scalable Optimization of Complex SQL Queries"
Gopal Chandra Das (July 2006)
24. "A Persistent SEMEQUAL Operator"
Prateem Mandal (July 2006)

25. "Next-Generation Relational Query Optimizers"
K. Naveen Reddy (June 2005)
26. "MLPostgres: Implementing Multilingual Functionalities inside PostgreSQL Database Engine"
P. Pavan Kumar Chowdary (June 2005)
27. "High Performance Algorithms for Privacy-Preserving Mining"
Shipra Agrawal (July 2004)
28. "Performance Analysis of Horizontally Compacted String Indexes"
Anoop Jain (July 2004)
29. "Green Query Optimization: Taming Query Optimization Overheads through Plan Recycling"
Sarda Parag Kacharulal (July 2004)
30. "Implementation of SPINE Genomic Index and Graphical User Interface in BODHI"
Abhijit Kadlag (July 2004)
31. "Fast Access to File-based Data Warehouses"
Amol V. Wanjari (July 2004)
32. "PLASTIC: Reducing Query Optimization Overheads through Plan Recycling"
Vibhuti Singh Sengar (March 2003)
33. "The SPINE Genomic Index"
Naresh Neelapala and Romil Mittal (March 2003)
34. "Design and Implementation of META and Log Record Reduction in GT.M Database"
Srikanth B. (March 2002)
35. "Design and Implementation of Client Interface Framework in BODHI"
Bandi Sreekanth Reddy (March 2002)
36. "Implementation of PDIndex and Query Optimization in BODHI"
Nagesh Bhattu Sristy (March 2002)
37. "Efficiently Evaluating N-Iceberg Queries"
Krishna P. Leela (March 2002)
38. "On Integrating Iceberg Queries in the Query Optimizer"
Pankaj M. Tolani (March 2002)
39. "System Integration, Testing and Evaluation of BODHI"
Uday Sankar Sen (January 2001)
40. "Graphical Interfaces for Spatial Data"
Amitabh Ghosh (July 2000)
41. "Query Processing and Optimization in Oshadhi"
Satheesh Konidala (February 2000)
42. "Database Habitats for Biological Species: Handling Taxonomy Data in OSHADHI"
T. Rajarao (February 2000)
43. "The Spatial Perspective of OSHADHI"
Madhava Rao Cheethirala (February 2000)
44. "One-Phase Real-Time Commit Processing"
Prabodh Saha (July 1999)
45. "Design Issues in a Data Warehouse"
Anurag Srivastava (March 1999)

46. "OSHADHI-3 Biodiversity Information System"
Manjusha Gedam (January 1999)
47. "Commit Processing in Distributed Secure Real-Time Transaction Processing Systems"
Kavitha Nagaraj (October 1998)
48. "DISCOVER the Web"
Nalin Gupta (July 1997)
49. "The OSHADHI-2 Biodiversity Database System"
B. Chandramouli (July 1997)
50. "DELTA: A Fast Algorithm for Incremental Mining of Association Rules"
Shrividya (June 1997)
51. "Index Concurrency Control in Firm Real-Time Databases"
S. R. Narayanan (January 1997)
52. "Design and Implementation of the MIDAS-2 Manufacturing Database System"
N. Sridevi (January 1997)
53. "Design and Implementation of MIDAS – A Manufacturing Information Database System"
R. Bhuvaneshwari (June 1996)
54. "Query Processing and Bulk Loading in Object Oriented Database Systems"
M. Krishna (June 1996)
55. "Fair Schedulers for Disk Drives"
Tulika Pradhan (June 1995)
56. "Data Compression in Databases"
Gautam Ray (June 1995)
57. "OSHADHI: A Bio-diversity Information System"
R. Vidya (June 1995)
58. "REVI: A Recreatable Text Editor"
R. Sridharan (January 1995)
59. "Fairness in Disk Scheduling"
Raj Kumar (January 1994)

Section E: RESEARCH ACTIVITY INITIATION

When I joined IISc, research on database systems and real-time systems was non-existent at our center and I therefore had to start from scratch the research activities in these areas. These initial efforts were given a focus after I set up the Database Systems Lab to serve as a dedicated facility for database and real-time system research and development – I have been the Convenor of the lab since that time. The lab currently has close to twenty workstations, primarily comprised of high-end Sun Ultra 24 and Ultra 20 platforms; the Illustra, DB2, Oracle, SQL Server, Sybase, PostgreSQL, MySQL, Shore and Exodus database software packages; numerous books, journals, conference proceedings and manuals; discussion, presentation and copier facilities; and is networked, airconditioned, and open round the clock. These facilities have, for the most part, been acquired using funding from projects sponsored by government agencies and multinational companies.

Section F: PROFESSIONAL ACTIVITIES

EDITOR

- Associate Editor of the International Journal of Real-Time Systems (JRTS), Springer, January 1998 – July 2010
- Associate Editor of the IEEE Data Engineering Bulletin (DEB), January 2006 – December 2007
- Associate Editor of the Journal of Distributed and Parallel Databases, Springer (JDPD), January 2008 –
- Associate Editor of the IEEE Transactions on Knowledge and Data Engineering (TKDE), March 2009 –
- Associate Editor of the Very Large Data Base Journal (VLDBJ), Springer, September 2009 –
- Associate Editor of the Journal of Computing, CSI, July 2011 –
- Associate Editor of the Proceedings of VLDB Endowment (PVLDB), VLDB Endowment, April 2012 –

BOARD

- Member, Board of Studies, Computer Science, Goa University (1999–2002)
- Member, Board of Studies, International School of Information Management (ISIM), Mysore University (2006–)
- Member, Technical Advisory Board, 3iInfotech, Mumbai (2008–2009)
- Member, Executive Committee, IEEE Computer Society (Bangalore Chapter), (2010–2012)

INVITED TALKS

1. “Designing Database Engines”
 - Karnataka State Council for Higher Education, Bangalore, September 6, 2011
2. “Query Optimization in DBMS”
 - In-service Training Program for Post Graduate Teachers (Computer Science), Kendriya Vidyalaya IISc, Bangalore, May 11, 2011
3. “Robust Optimization of Database Queries”
 - Indian Academy of Sciences Mid-year Meeting, Bangalore, July 10, 2011
 - IISc-IBM Research Day, Bangalore, March 19, 2011
4. “Drawing Out the Artistic Talents of Database Query Optimizers”
 - Dept. of Computer Science, Goa University, Goa, November 3, 2011
 - Dept. of Computer Science, MANIT, Bhopal, August 3, 2011
 - IIITM-K, Thiruvananthapuram, February 3, 2011
 - Thiagarajar School of Management, Madurai, September 3, 2010
 - Dept. of Computer Science, IIT Kanpur, April 22, 2010
 - Dept. of Computer Science, IIT Kanpur, April 22, 2010
 - Dept. of Computer Science, Andhra University, Vishakapatnam, January 23, 2010
 - The Data Warehousing Institute, Bangalore, December 19, 2009
 - Bangalore Science Forum, July 23, 2009

- SAP India Labs, Bangalore, February 27, 2009
 - Workshop on Advanced Database Replication Technologies for Netcentric Systems, CAIR, DRDO Bangalore, December 3, 2008
 - IISc-IBM Research 3rd Operations Research and Data Analytics Workshop, Bangalore, March 4, 2008
 - TCS Performance Engineering Day, Bangalore, October 29, 2007
 - Microsoft Research, Bangalore, August 24, 2006
5. “Analyzing Plan Diagrams of Database Query Optimizers”
 - Bell Labs India, Bangalore, September 20, 2005
 - IBM Global Services, Bangalore, September 20, 2005
 6. “Reducing Query Optimization Overheads through Plan Recycling”
 - IBM Global Services, Bangalore, April 15, 2004
 - IIIT Bangalore, October 17, 2003
 - Intl. Symp. on Information Technology: Emerging Trends, IIT Allahabad, September 19, 2003
 - Dept. of Computer Science & Engineering, IIT Madras, April 24, 2003
 - IBM India Research Lab, New Delhi, March 28, 2003
 - N. Rama Rao Distinguished Lecture, IIT Kanpur, March 27, 2003
 - Goa University, October 19, 2002
 7. “Privacy-Preserving Data Mining”
 - Dept. of Computer Science, Andhra University, January 22, 2010
 - Research Symposium, PanIIT 2008 Global Conference, IIT Madras, December 20, 2008
 - Intl. Conf. on Future of Knowledge Organization in the Networked Environment (IKONE), September 4, 2007
 - Rotary Club, Bangalore South, 2006
 - Kamala Institute of Science & Technology, Singapur, December 22, 2005
 - Bangalore Science Forum, Bangalore, September 28, 2005
 - Pune Institute of Engineering and Technology, Pune, October 9, 2004
 - 3rd Informatics Endowment Lecture Series on Digital Libraries, U. of Mysore, Mysore, August 27, 2004
 - U. of Hyderabad, Hyderabad, July 23, 2004
 - SDM College, Dharwad, May 17, 2004
 - Don Bosco College, Bangalore, May 8, 2004
 8. “MASK: Mining Associations with Secrecy Konstraints”
 - SHOWCASE, Dept. of Computer Science & Automation, IISc, September 22, 2002
 9. “Turbocharging Vertical Mining in Large Databases”
 - N. Rama Rao Distinguished Lecture, IIT Kanpur, February 16, 2001
 - Cornell University, Ithaca, U.S.A., July 7, 2000
 10. “Multilingual Databases”
 - Managing Complexity in a Distributed World (MCDES), IISc Centenary Conference, Bangalore, May 28, 2008

- Annual Convention of Computer Society of India, November 2007
 - Convergence 2006, Workshop on New Frontiers in Database Research, Mumbai, March 19, 2006
 - Microsoft Academic Summit, Bangalore, April 14, 2004
11. “Mutating Database Engines to be Bio-friendly”
 - Workshop on Scientific Discovery through Intensive Data Exploration, ICTS Bangalore, February 10, 2011
 - Indian Institute of Science Colloquium, February 27, 2006
 12. “SPINE: Putting Backbone into String Indexing”
 - Bioinformatics Symposium, Indian Institute of Science, March 1, 2006
 13. “Indexing Techniques for Biological Data”
 - Workshop on Scientific Discovery through Intensive Data Exploration, ICTS Bangalore, February 11, 2011
 14. “Indexing Genomic Sequences”
 - Workshop on Data Mining Applications in Bioinformatics, Indian Institute of Science, March 20, 2003
 15. “Database Technology and Biologists: Bridging the Digital Divide”
 - Monsanto Research Centre, Bangalore, October 10, 2002
 16. “Design and Implementation of a Biodiversity System”
 - Symposium on Current Trends in Bioinformatics, Indian Institute of Science, March 28, 2001
 17. “Database Compression: A Performance Enhancement Tool”
 - Goa University, April 30, 1998
 18. “Distributed Query and Transaction Processing”
 - Goa University, April 29, 1998
 19. “Concurrency Control in Database Systems”
 - Goa University, April 27, 1998
 20. “Commit Processing in Distributed Real-Time Database Systems”
 - HP Labs, San Jose, May 28, 1997
 21. “Revisiting Commit Processing in Distributed Database Systems”
 - Northeastern University, Boston, May 21, 1997
 - IBM Watson Research Center, New York, May 22, 1997
 - AT&T Bell Labs, Murray Hill, May 23, 1997
 - IBM Almaden Research Center, San Jose, May 27, 1997
 22. “Secure Transaction Processing in Real-Time Database Systems”
 - Hong Kong University of Science and Technology, May 9, 1997
 - University of Massachusetts, Amherst, May 19, 1997
 - National University of Singapore, May 30, 1997
 23. “Approximate Analysis of Real-Time Database Systems”
 - Indian Institute of Technology, Bombay, February 4, 1994

24. "Transaction Scheduling in Real-Time Database Systems"
 - University of Florida, Gainesville, U.S.A., June 28, 1993
25. "Database Systems: The Next Generation"
 - SHOWCASE, Dept. of Computer Science & Automation, IISc, September 2001

INVITED TUTORIALS

1. "Query Optimizer Plan Diagrams: Production, Reduction and Applications"
 - 27th IEEE Intl. Conf. on Data Engineering (ICDE), Hanover, Germany, April 14, 2011
2. "The Strange and Wondrous Ways of Industrial-Strength Database Query Optimizers"
 - 15th Intl. Conf. on Management of Data (COMAD), Mysore, December 11, 2009
3. "Multi-lingual Databases"
 - 11th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Singapore, April 12, 2006
 - 13th Intl. Conf. on Management of Data (COMAD), New Delhi, December 14, 2006
4. "XML Databases"
 - VLDB Summer School, New Delhi, June 2, 2004
 - VLDB Summer School, Bangalore, June 9, 2004
5. "Real-time Database Systems"
 - Workshop of the Indian Database Research Community, Pune, May 12, 1999
6. "Relational Query Languages"
 - CDAC Workshop on Relational Database Technology, Bangalore, April 28, 1994
7. "An Introduction to Relational Database Management Systems"
 - CDAC Workshop on Relational Database Technology, Bangalore, April 28, 1994
8. "An Overview of Real-Time Systems"
 - Aeronautical Development Establishment, Bangalore, April 6/7, 1993
 - Aeronautical Development Establishment, Bangalore, September 23/25, 1993

CHAIR

- General Chair, 17th Intl. Conf. on Management of Data, COMAD 2011, Bangalore, India
- Program Committee Co-Chair, 26th Intl. Conf. on Data Engineering, ICDE 2010, Los Angeles, USA
- Tutorials Co-Chair, 19th Intl. World Wide Web Conf., WWW 2010, Raleigh, USA
- Demonstrations Track Co-Chair, 35th Intl. Conf. on Very Large Data Bases, VLDB 2009, Lyon, France
- Program Committee Co-Chair, 13th Intl. Conf. on Database Systems for Advanced Applications, DASFAA-2008, March 2008, New Delhi, India
- Program Committee Vice-Chair, IEEE Intl. Conf. on Data Mining, ICDM 2007, October 2007, Omaha, Nebraska, USA
- Program Committee Chair, 11th Intl. Conf. on Management of Data, COMAD-2005, January 2005, Goa, India

Program Committee Vice-Chair (Database Applications & Experiences Track), 21st IEEE Intl. Conf. on Data Engineering, ICDE 2005, April 2005, Tokyo, Japan

Program Committee Co-Chair, Workshop on Bioinformatics, March, 2003, Bangalore, India

Tutorials Chair, 12th Intl. Conf. on Management of Data, COMAD-2005b, December 2005, Hyderabad, India

Tutorials Chair, 10th Intl. Conf. on Database Systems for Advanced Applications, DASFAA-2005, April 2005, Beijing, China

Local Arrangements Chair, 19th Intl. Conf. on Data Engineering, ICDE-2003, March 2003, Bangalore, India

SESSION CHAIR

Query Processing session, 34th Intl. Conf. on Very Large Data Bases (VLDB), Auckland, New Zealand, August 2008

Query Processing Engines session, 33rd Intl. Conf. on Very Large Data Bases (VLDB), Vienna, Austria, September 2007

Query Optimization session, 31st Intl. Conf. on Very Large Data Bases (VLDB), Trondheim, Norway, August 2005

Data Integration session, 21st Intl. Conf. on Data Engineering (ICDE), Tokyo, Japan, April 2005

Compression and Indexing session, 30th Intl. Conf. on Very Large Data Bases (VLDB), Toronto, Canada, September 2004

Data Mining session, Intl. Conf. on Very Large Data Bases (VLDB), Berlin, Germany, 2003

Poster session, 19th Intl. Conf. on Data Engineering, ICDE-2003, March 2003, Bangalore, India

Data Integrity and Security session, Intl. Conf. on Very Large Data Bases (VLDB), Bombay, India, 1996

Transactions session, Workshop of the Indian Database Research Community, 1999

PROGRAM COMMITTEE

Intl. Conf. on Extending Database Technology (EDBT) [Industrial]: 2012

Intl. Workshop on Business Intelligence for the Real Time Enterprise (BIRTE): 2008

Intl. Workshop on Testing Database Systems (DBTEST): 2008

ACM Intl. Conference on Information and Knowledge Management (CIKM): 2008

ACM SIGMOD Intl. Conf. on Management of Data (SIGMOD): 2004, 2007

Intl. Conf. on Very Large Data Bases (VLDB): 1996, 1997, 2002, 2003, 2004, 2005, 2006, 2007, 2010

Intl. Conf. on Extending Database Technology (EDBT): 2006

IEEE Intl. Conf. on Data Engineering (ICDE): 1996, 2008

Intl. World Wide Web Conf. (WWW): 2004

Intl. Workshop on the Web and Databases (WebDB): 2003

ACM SIGKDD Workshop on Data Mining in Bioinformatics (BIOKDD): 2004, 2005

Pacific Asia Conf. on Knowledge Discovery and Data Mining (PAKDD): 2001, 2002, 2003

Intl. Workshop on Research Issues in Data Engineering (RIDE): 2003
IEEE Real-Time Technology and Applications Symposium (RTAS): 2001
Intl. Conf. on Database Systems for Advanced Applications (DASFAA): 2001
Intl. Conf. on Parallel and Distributed Information Systems (PDIS): 1996
Intl. Workshop on Databases in Networked Information Systems (DNIS): 2000
Intl. Conf. on Management of Data (COMAD): 1994, 1995, 2000, 2008
IEEE Real-Time Systems Symposium (RTSS): 1994

REVIEWER

ACM Transactions on Computer Systems
ACM Transactions on Database Systems
IEEE Transactions on Systems, Man and Cybernetics
IEEE Transactions on Knowledge and Data Engineering
IEEE Transactions on Parallel and Distributed Systems
IEEE Transactions on Software Engineering
IEEE Transactions on Computers
IEEE Computer
International Journal on Very Large Data Bases
International Journal of Real-Time Systems
Journal of Information Systems
CSI Journal of Computer Science and Informatics

ACM SIGMETRICS Conference
ACM SIGMOD Conference
IEEE Intl. Conf. on Data Engineering
IEEE Conf. on Distributed Computing Systems
IEEE Intl. Symp. on Network Management
Intl. Conf. on Very Large Data Bases
Conf. on Foundations of Software Theory and Theoretical Computer Science

ASSOCIATIONS

ACM (Distinguished Scientist), ACM SIGMOD, ACM SIGMETRICS
IEEE (Senior Member), IEEE Computer Society
Computer Society of India (Life Member)

Section G: AWARDS and HONORS

Awards

- Featured in five most-cited papers in Springer's International Journal of Real-time Systems since inception in 1989.
- Distinguished Alumnus Award, Indian Institute of Technology – Madras, 2012.
- Fellow, Indian Academy of Sciences, 2010.
- Fellow, Indian National Academy of Engineering, 2009.
- Fellow, The National Academy of Sciences, India, 2007.
- Distinguished Scientist of ACM, 2009.
- Shanti Swarup Bhatnagar Prize (Engineering Sciences), CSIR, Govt. of India, 2009.
- Hari Om Ashram Prerit Dr. Vikram Sarabhai Research Award (Informatics), 2007.
- Sir C. V. Raman Young Scientist award, Govt. of Karnataka, 2001.
- Swarnajayanti Fellowship (Engineering Sciences), DST, Govt. of India, 2001-02.
- Financial award, in recognition of technical work, of USD 200000 from major multinational software companies including IBM, Yahoo, Avaya Labs, Lucent Bell Labs, Sanchez Computer Associates, Texas Instruments, Microsoft Research, Google, Jovian Data and Sybase.
- Featured in "Top 1% of cited authors in Computer Science" list published by the NEC Research Institute, USA.

Named Talks and Keynotes

- Keynote Address, "Big Data (Size does Matter)", Parasparam 2011, HP Global Soft, October 2011.
- Keynote Address, "Drawing Out the Artistic Talents of Database Query Optimizers", 26th Brazilian Symposium on Databases (SBBDB), Florianopolis, Brazil, October 2011.
- Keynote Address, "Drawing Out the Artistic Talents of Database Query Optimizers", 12th Intl. Conf. on Management of Data (COMAD 2005b), Hyderabad, India, December 2005.
- 3rd Informatics Endowment Lecture Series on Digital Libraries, "Privacy-Preserving Data Mining", Univ. of Mysore, August 2004.
- N. Rama Rao Distinguished Lecture, "Reducing Query Optimization Overheads through Plan Recycling", Dept. of Computer Science and Engineering, IIT Kanpur, April 2003.
- N. Rama Rao Distinguished Lecture, "Turbocharging Vertical Mining of Large Databases", Dept. of Computer Science and Engineering, IIT Kanpur, February 2001.

Best Paper

- Author of demo paper chosen for Best Software Demonstration award in 36th Intl. Conf. on Very Large Data Bases (VLDB), September 2010.
- Co-author of paper chosen for Best Paper award in Intl. Conf. on Management of Data (COMAD), December 2000.
- Co-author of paper chosen in the Best Paper Category at the Intl. Conf. on Very Large Data Bases (VLDB), USA, August 1998 (the conference accepted 51 papers from the 328 submissions worldwide, and among this subset, 6 were chosen in the Best Paper Category).

- Co-author of four papers chosen in the “Selected Papers from Intl. Conf. on Management of Data (COMAD): 1989-98” list.

Others

- MSc(Engg) student, Pooja Darera, Subramaniam Rajalakshmi Ammal Medal for the Best MSc(Engg) Thesis of SERC, Indian Institute of Science, for the year 2008-09.
- Early promotion from Associate to Full Professor, September 2004.
- PhD student, A. Kumaran, Sir Vithal N Chandavarkar Medal for the Best PhD Thesis in the Faculty of Engineering of the Indian Institute of Science, for the year 2006-07.
- Early promotion from Associate to Full Professor, September 2004.
- PhD student, Vikram Pudi, awarded Prof B G Raghavendra Memorial Medal for the Best PhD Thesis (in the area of operations research and allied areas) of Indian Institute of Science, for the year 2003-04.
- Third place (from 200 contestants) in the Fifth ACM Knowledge Discovery & Data Mining (KDD) Cup international competition, August 2001.
- Guest Editor, Special Issue on Real-time Database Systems, Intl. Journal of Real-time Systems, vol. 19, no. 3, November 2000.
- Senior Member, IEEE, 2000.
- Highest ratings from Dept. of Science and Technology for MIDAS project, 1997, and MINTO project, 1999.

END OF RESUME