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## • Masha Sosonkina •

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### **Masha Sosonkina**

Scientist, Ames Laboratory USDOE,  
Adjunct Associate Professor,  
Departments of Computer Science and  
Electrical and Computer Engineering

### **Education**

- ◇ Ph.D., Computer Science and Applications, Virginia Tech, Blacksburg, VA, Aug. 1993 – Sep. 1997.
- ◇ B.S., M.S., Applied Mathematics, Kiev National University, Kiev, Ukraine, Sep. 1987 – Jun. 1992.

### **Research Interests**

- ◇ High-performance computing and applications
- ◇ Computational science and engineering
- ◇ Component engineering for high-performance computing
- ◇ Parallel numerical algorithms
- ◇ Performance and scalability analysis
- ◇ Adaptive algorithm infrastructure
- ◇ Distributed and grid computing

### **Professional Experience**

- ◇ Scientist, Ames Laboratory U.S. Department of Energy, Ames, IA, May 2003 – present.
- ◇ Adjunct Associate Professor, Department of Computer Science, Iowa State University, IA, Sep. 2003 – present.
- ◇ Adjunct Associate Professor, Department of Electrical and Computer Engineering, Iowa State University, IA, Sep. 2007 – present.
- ◇ Associate Professor, Department of Computer Science, University of Minnesota Duluth, MN, Sep. 2002 – Dec. 2005, (with tenure).
- ◇ Assistant Professor, Computer Science, University of Minnesota Duluth, MN, Dec. 1997 – Aug. 2002.
- ◇ Research Associate, Ames Laboratory U.S. Department of Energy, IA, Sep. 1999 – Dec. 1999.
- ◇ Research Associate, Computer Science, Virginia Tech, VA, Jun. 1999 – Jul. 1999; Sep. 1997 – Dec. 1997.
- ◇ Post-doctoral Associate, Department of Computer Science and Engineering, University of Minnesota, MN, Jun. 1998 – Aug. 1998.
- ◇ Graduate Research Assistant, Computer Science, Virginia Tech, VA, May 1994 – Aug. 1997.

### **Publications: Book Chapters**

1. R.A. Kendall, M. Sosonkina, W.D. Gropp, R.W. Numrich, and T. Sterling, *Parallel programming models applicable to cluster computing and beyond*, Numerical Solution of Partial Differential Equations on Parallel Computers, A.M. Bruaset and A. Tveito, (eds.), Springer, 2005, pp. 3–55.
2. G. Mateescu, M. Sosonkina, and P. Thompson, *A new model for probabilistic information retrieval on the Web*, Statistical Methods in Computer Security, W.S. Chen (ed.), Marcel Dekker, New York, 2004, pp. 327–348.

### **Publications: Journal Papers**

1. M. Sosonkina, F. Liu, and R. Bramley, *Usability levels for sparse linear algebra components*, Concurrency and Computation: Practice and Experience, in press 2007.
2. J. Jones, M. Sosonkina, and Y. Saad, *Component-based iterative methods for sparse linear systems*, Concurrency and Computation: Practice and Experience, 19 (2007) pp. 625–635.

3. G.A. Atenekeng Kahou, L. Grigori, and M. Sosonkina, *A partitioning algorithm for block-diagonal matrices with overlap*, Parallel Computing, submitted Dec. 2006, revised Oct. 2007.
4. J. He, L.T. Watson, and M. Sosonkina, *VTDIRECT95: serial and parallel codes for the global optimization algorithm DIRECT*, ACM Transactions on Mathematical Software, submitted Oct. 2007.
5. J. He, A. Verstak, L.T. Watson, and M. Sosonkina, *Design and implementation of a massively parallel version of DIRECT*, Comput. Optim. Applications, in press Oct. 2007.
6. H.-J. Su, J.M. McCarthy, M. Sosonkina, L.T. Watson, *Algorithm 857: POLSYS\_GLP: A parallel general linear product homotopy code for solving Polynomial Systems of Equations*, ACM Transactions on Mathematical Software, 32 (2006) pp. 561–579.
7. J. He, A. Verstak, L.T. Watson, and M. Sosonkina, *Performance modeling and analysis of a massively parallel DIRECT*, Int'l Journal of High-Performance Computing Applications, submitted Dec. 2006.
8. M. Sosonkina, Y. Saad, and X. Cai, *Using the parallel algebraic recursive multilevel solver in modern physical applications*, Future Generation Computer Systems, 20 (2004) pp. 489–500.
9. X. Cai and M. Sosonkina, *A numerical study of some parallel algebraic preconditioners*, Parallel and Distributed Scientific and Engineering Computing: Practice and Experience. Advances in Computation: Theory and Practice, 15 (2004) pp. 9–21.
10. P. Guillaume, Y. Saad, and M. Sosonkina, *Rational approximation preconditioners for general sparse linear systems*, Journal on Computational and Applied Mathematics, 158 (2003) pp. 419–442.
11. Z. Li, Y. Saad, and M. Sosonkina, *pARMS: a parallel version of the algebraic recursive multilevel solver*, Numerical Linear Algebra with Applications, 10 (2003) pp. 485–509.
12. M. Sosonkina, D.C.S. Allison, and L.T. Watson, *Scalability analysis of parallel GMRES implementations*, Parallel Algorithms and Applications, 17 (2002) pp. 285–299.
13. M. Sosonkina, J.T. Melson, Y. Saad, and L.T. Watson, *Preconditioning strategies for linear systems arising in tire design*, Numerical Linear Algebra with Applications, 7 (2000) pp. 743–757.
14. M. Sosonkina, D.C.S. Allison, and L.T. Watson, *Parallel adaptive GMRES implementations for homotopy methods*, SIAM J. Optimization, 9 (1999) pp. 1149–1158.
15. Y. Saad and M. Sosonkina, *Distributed Schur complement techniques for general sparse linear systems*, SIAM J. Scientific Computing, 21 (1999) pp. 1337–1356.
16. Y. Saad, M. Sosonkina, and J. Zhang, *Domain decomposition and multi-level type techniques for general sparse linear systems*, Contemporary Math., 218 (1998) pp. 174–190.
17. M. Sosonkina, L.T. Watson, R.K. Kapania, and H.F. Walker, *A new adaptive GMRES algorithm for achieving high accuracy*, Numerical Linear Algebra with Applications, 5 (1998) pp. 275–297.
18. L.T. Watson, M. Sosonkina, R.C. Melville, A.P. Morgan, and H.F. Walker, *HOMPACK90: a suite of Fortran 90 codes for globally convergent homotopy algorithms*, ACM Transactions on Mathematical Software, 23 (1997) pp. 514–549.
19. M. Sosonkina, L.T. Watson, and D.E. Stewart, *Note on the end game in homotopy zero curve tracking*, ACM Transactions on Mathematical Software, 22 (1996) pp. 281–287.

### **Publications: Refereed Proceedings**

1. F. Peng, M.-S. Wu, M. Sosonkina, T. Windus, J.L. Bentz, and M.S. Gordon, *Tackling component interoperability in quantum chemistry software*, In Proc. 2007 HPC-GECO/Compframe Workshop, Montreal, Canada, 2007, 8 pages.
2. M.-S. Wu, J.L. Bentz, F. Peng, M. Sosonkina, M.S. Gordon, and R.A. Kendall, *Integrating performance tools with large-scale scientific software*, In Proc. 21st Int'l Parallel & Distributed Processing Symp. (IPDPS), IEEE Computer Soc., Long Beach, CA, 2007, 8 pages.
3. A. Bonfiglioli, B. Carpentieri, and M. Sosonkina, *EulFS: a parallel CFD code for the simulation of Euler and Navier-Stokes problems on unstructured grids*, Applied Parallel Computing, PARA 2006, Revised Selected Papers, B. Kaagstrom *et al.* (eds.), Lecture Notes in Computer Science, 4699, Springer-Verlag, Berlin, 2007, pp. 676–685.

4. F. Peng, M.-S. Wu, M. Sosonkina, R.A. Kendall, M.W. Schmidt, and M.S. Gordon, *Coupling GAMESS via standardized interfaces*, In Proc. 2006 HPC-GECO/Compframe Workshop, Paris, France, 2006, 8 pages.
5. J. Jones, L. Liu, and M. Sosonkina, *Granularity of component interfaces for iterative linear algebra*, In Proc. 2006 HPC-GECO/Compframe Workshop, Paris, France, 2006, 4 pages.
6. N. Ustemirov, M. Sosonkina, M.S. Gordon, and M.W. Schmidt, *Dynamic algorithm selection in parallel GAMESS calculations*, 2006 Int'l Conference on Parallel Processing Workshops, Columbus, OH, 2006, pp. 489–496.
7. G. Mateescu and M. Sosonkina, *IMAGE: an approach to building standards-based enterprise Grids*, In Proc. 20th Int'l Parallel & Distributed Processing Symp. (IPDPS), 3rd High-Performance Grid Computing Workshop, IEEE Computer Soc., Rhodes Island, Greece, 2006, 8 pages.
8. M. Sosonkina and I. Tsukerman, *Parallel solvers for flexible approximation schemes in multiparticle simulation*, Computational Science - ICCS 2006, Part I, V. Alexandrov, G. Dick van Albada, Peter M.A. Sloot, and J. Dongarra (eds.): Lecture Notes in Computer Science, 3991, Springer-Verlag, Berlin, 2006, pp. 54–62.
9. J. He, A. Verstak, L.T. Watson, and M. Sosonkina, *Performance studies of a parallel global search algorithm on System X*, In Proc. 2005 Spring Simulation Multiconf., High Performance Computing Symp., J.A. Hamilton, Jr. et al. (eds), Soc. for Modeling and Simulation Internat., San Diego, CA, 2005, pp. 209–214.
10. N. Ustemirov and M. Sosonkina, *Concurrent execution of electronic structure calculations in SMP environments*, In Proc. 2005 Spring Simulation Multiconf., High Performance Computing Symp., J.A. Hamilton, Jr. et al. (eds), Soc. for Modeling and Simulation Internat., San Diego, CA, 2005, 6 pages.
11. N. Ustemirov and M. Sosonkina, *Co-scheduling parallel electronic structure calculations in SMP cluster environments*, In Proc. Cluster 2005, Boston, MA, Sep. 2005, 2 pages.
12. M. Sosonkina, *Adapting distributed scientific applications to run-time network conditions*, Applied Parallel Computing, PARA 2004, Revised Selected Papers, J. Dongarra et al. (eds.), Lecture Notes in Computer Science, 3732, 2006, pp. 747–755.
13. S. Storie and M. Sosonkina, *Packet probing as network load detection for scientific applications at run-time*, In Proc. 18th Int'l Parallel & Distributed Processing Symp. (IPDPS), IEEE Computer Soc., Santa Fe, NM, 2004, 10 pages.
14. J. He, M. Sosonkina, C.A. Shaffer, J.J. Tyson, L.T. Watson, and J.W. Zwolak, *A hierarchical parallel scheme for global parameter estimation in systems biology*, In Proc. 18th Int'l Parallel & Distributed Processing Symp. (IPDPS), IEEE Computer Soc., Santa Fe, NM, 2004, 9 pages.
15. X. Cai and M. Sosonkina, *A numerical study of some parallel algebraic preconditioners*, In Proc. 17th Int'l Parallel & Distributed Processing Symp. (IPDPS), 4th Workshop on Parallel and Distributed Scientific and Engineering Computing with Applications (PDSECA), IEEE Computer Soc., Nice, France, 2003, pp. 258b.
16. D. Kulkarni and M. Sosonkina, *A framework for integrating network information into distributed iterative solution of sparse linear systems*, High Performance Computing for Computational Science – VECPAR 2002, J. M.L.M Palma, J. Dongarra, V. Hernandez, and A.A. Sousa (eds), Lecture Notes in Computer Science, 2565, Springer-Verlag, Berlin, 2002, pp. 436 – 451.
17. X. Cai, Y. Saad, and M. Sosonkina, *Parallel iterative methods in modern physical applications*, Computational Science - ICCS 2002, P.M.A. Sloot, C.J.K. Tan, J. Dongarra, and A.G. Hoekstra, (eds), Lecture Notes in Computer Science, 2330, Springer-Verlag, Berlin, 2002, pp. 345–355.
18. G. Mateescu, M. Sosonkina, and P. Thompson, *A new model for probabilistic information retrieval on the Web*, Workshop on Web Analytics, J. Ghosh and J. Srivastava (eds), Second SIAM Int'l Conference on Data Mining, Arlington, VA, 2002, pp. 17–27.
19. Y. Saad and M. Sosonkina, *pARMS: a Package for solving general sparse linear systems of equations*, Parallel Processing and Applied Mathematics, R. Wyrzykowski, J. Dongarra, M. Paprzycki, and J. Wasniewski (eds), Lecture Notes in Computer Science, 2328, Springer-Verlag, Berlin, 2002, pp. 446–457.
20. D. Kulkarni and M. Sosonkina, *Minimizing communication waiting time in sparse linear system solution using dynamic network information*, In Proc. 2002 Int'l Conference on Communications in Computing, CIC 2002, Las Vegas, NV, Jun. 2002.

21. D. Kulkarni and M. Sosonkina, *Dynamic network information collection for distributed scientific application adaptation*, Int'l Conference on High Performance Computing, HiPC 2002, Bangalore, India, Dec. 2002.
22. M. Sosonkina and G. Chen, *Design of a tool for providing network information to an application*, Parallel Computing Technologies, PaCT 2001, V. Malyshev (eds), Lecture Notes in Computer Science, 2127, Springer-Verlag, Berlin, 2001, pp. 350–358.
23. M. Sosonkina, *Runtime adaptation of an iterative linear system solution to distributed environments*, Applied Parallel Computing, PARA 2000, T. Sorevik, F. Manne, R. Moe, and A. H. Gebremedhin (eds), Lecture Notes in Computer Science, 1947, Springer-Verlag, Berlin, 2001, pp. 132–140.
24. Y. Saad and M. Sosonkina, *Non-standard parallel solution strategies for distributed sparse linear systems*, Parallel Computation: 4th International ACPC Conference, P. Zinterhof *et al.* (eds), Lecture Notes in Computer Science, 1557, Springer-Verlag, Berlin, 1999, pp. 13–27.
25. M. Sosonkina, J. Melson, and L.T. Watson, *Iterative solution of large linear systems arising in tire design*, Modeling and Simulation Based Engineering, S. N. Atluri *et al.* (eds), Vol. 1, Tech Science Press, 1998, pp. 473–478.
26. M. Sosonkina, D.C.S. Allison, and L.T. Watson, *Scalable parallel implementations of the GMRES algorithm via Householder reflections*, 1998 Int'l Conf. on Parallel Processing, T. H. Lai (ed), IEEE Computer Society, Los Alamitos, CA, 1998, pp. 396–404.
27. Y. Saad and M. Sosonkina, *Solution of distributed sparse linear systems using PPARSLIB*, Applied Parallel Computing, PARA 1998, B. Kaagstrom *et al.* (eds), Lecture Notes in Computer Science, 1541, Springer-Verlag, Berlin, 1998, pp. 503–509.

#### **Research Funding: Current and Pending**

1. DOE Office of Advanced Scientific Computing, Mathematical, Information, and Computational Sciences (MICS) “Multilevel parallelism with applications in nuclear physics and sparse matrix computations”, Principal investigator, 10/01/2007 – 9/30/2010, \$900,000.
2. National Science Foundation Grant [NSF/OCI – 0749156], “Enabling petascale applications in the chemical sciences”, Co-principal investigator, 10/01/2007 – 09/31/2011, \$900,000.
3. Scientific Discovery through Advanced Computing (SciDAC-2) “Building a universal nuclear energy density functional”, Co-principal investigator, 12/01/2006 – 11/30/2011, \$100,000 *per year* for Sosonkina.
4. Scientific Discovery through Advanced Computing (SciDAC-2) “Chemistry framework using Common Component Architecture”, Co-principal investigator, 10/01/2006 – 09/30/2009, \$500,000.
5. National Science Foundation Grant [NSF/CHE – 0535640] “Cyberinfrastructure and research facilities: tools for ab initio molecular dynamics and simulation analysis”, Co-principal investigator, 09/01/2005 – 08/31/2008, \$2,544,502 with \$300,000 for Sosonkina.
6. DOE Office of Advanced Scientific Computing, Applied Mathematics, “Robust parallel iterative solvers for linear and least-squares systems”, Co-principal investigator, [selected for funding 01/01/2008 – 12/31/2011] with \$420,000 for Sosonkina.

#### **Research Funding: Completed**

1. DOE Office of Advanced Scientific Computing, Mathematical, Information, and Computational Sciences (MICS) “High performance computing systems research – enabling environments for tuning high performance applications”, Principal investigator, 10/01/2004 – 9/30/2007, \$825,000.
2. National Science Foundation Grant [NSF/ACR – 0305120] “Parallel large-scale sparse linear system solvers: new methods and paradigms”, Co-principal investigator, 06/01/2003 – 05/31/2007, \$350,000.
3. University Research Grant; Iowa State University “Network-aware scientific applications on supercomputers with multiple interconnections”, Principal investigator, 07/01/2004 – 06/30/2005, \$16,000.
4. National Science Foundation Grant [NSF/ACR – 0000443] “Algebraic recursive multilevel solvers: advances in scalable and robust parallel linear system solution methods”, Co-principal investigator, 06/01/2000 – 05/31/2003, \$469,839.

5. National Science Foundation Grant [NSF/INT – 0003274] “Robust parallel preconditioning methods: bridging the gap between direct and iterative methods”, NSF-INRIA (France) collaboration, Co-principal investigator, 06/01/2001 – 05/31/2004, \$36,000.
6. Grant-in-Aid of Research; University of Minnesota, “Parallel solution of large-scale general linear systems”, Principal investigator, 12/1997 – 11/1999, \$17,271.
7. University of Minnesota international travel grants for contributed paper presentations at VECPAR 2002 (Portugal), PARA 2000 (Norway), and PARA 1998 (Sweden), \$1,800.

### Recent Invited Talks

- ◇ “Interoperability of sparse linear system solvers represented as components”, Plenary talk, 7th Int’l Conference on Parallel Processing and Applied Mathematics (PPAM 2007), Gdansk, Poland, Sep. 2007.
- ◇ “Coupling quantum chemistry software using Common Component Architecture”, Seminar, IRISA/INRIA, Rennes, France, May 2007.
- ◇ “IMAGE: an approach to building standards-based enterprise Grids”, Seminar, University of Versailles, Versailles, France, Jun. 2006.
- ◇ “Parallel solution of a general sparse linear system using pARMS”, Seminar, INRIA/IRISA, Rennes, France, May 2005.
- ◇ “A parallel algebraic recursive multilevel solver for modern physical applications”, Seminar, Queens University, Belfast, Northern Ireland, Jun. 2004.
- ◇ “Experiments with circuit simulation matrices in pARMS”, Minisymposium talk, 11th SIAM Parallel Processing Conference, San Francisco, CA, Feb. 2004.
- ◇ “Two-level Schur complement schemes in pARMS”, Minisymposium talk, 11th SIAM Parallel Processing Conference, San Francisco, CA, Feb. 2004.

### Awards

1. Fulbright Senior Specialist, Grant to lecture and conduct research in Kiev Technical University of Ukraine, 2004.
2. Women’s International Science Collaboration (WISC), funded jointly by American Association for the Advancement in Science (AAAS) and National Science Foundation, “High-performance computing for simulation of complex objects in energetics, economics, and ecology”, NSF-IPME (Ukraine) collaboration, 2003.
3. Association of Women in Mathematics award to attend the Olga Taussky Todd Celebration, Berkeley Jul. 1999.

### Publications: Refereed Abstracts

1. M. Sosonkina, *Scalable dynamic adaptations for electronic structure calculations*, Parallel Computing 2007 (ParCo 2007), Aachen–Juelich, Germany, Sep. 2007.
2. M. Sosonkina, Y. Saad, and B. Uçar, *Using hypergraph partitioning for iterative linear system solution techniques*, 4th Int’l Workshop on Parallel Matrix Algorithms and Applications PMAA 2006, Marseille, France, Oct. 2006.
3. M. Sosonkina, *An experimental study of communication overhead for a parallel iterative linear system solver in cluster environments*, 3rd Int’l Workshop on Parallel Matrix Algorithms and Applications PMAA 2004, Marseille, France, Oct. 2004.
4. M. Sosonkina and Y. Saad, *Parallel direct and iterative methods: a comparison*, 2nd St. Girons Conference “Sparse days and Grid computing”, St Girons, France, Jun. 2003.
5. M. Sosonkina and Y. Saad, *Parallel solution of a general sparse linear system using pARMS*, 11th Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, Apr. 2002.
6. Z. Li, Y. Saad, and M. Sosonkina, *Parallelism in algebraic recursive solvers*, In Proc. 10th SIAM Conference on Parallel Processing for Scientific Computing, SIAM, Philadelphia PA, 2001.
7. Y. Saad and M. Sosonkina, *Enhanced preconditioners for large sparse least squares problems*, Preconditioning 2001, CA, Apr. 2001.

8. M. Sosonkina, *A case study of a resource-aware parallel linear system solution*, Poster presentation, SC|99, Portland, OR, Nov. 1999.
9. Y. Saad and M. Sosonkina, *Enhanced parallel multicolor preconditioning techniques for linear systems*, In Proc. 9th SIAM Conference on Parallel Processing for Scientific Computing, SIAM, Philadelphia, PA, 1999.

### Professional Activities

- ◇ General Chair: High Performance Computing and Simulation Symposium (HPCS 2008), Ottawa, Canada, Apr. 2008.
- ◇ Conference Co-chair:
  - 4th HPC-GECO/Compframe Workshop, Aug. 2008.
  - High Performance Computing Symposium (HPC 2007), Norfolk, VA, Mar. 2007.
- ◇ Associate Fellow of the Minnesota Supercomputing Institute, Minneapolis, MN, May 2005 – present.
- ◇ Mentor for the Science Undergraduate Laboratory Internship (SULI) Program, Ames Laboratory, 2005, 2006.
- ◇ Steering Committee Member: High Performance Computing Symposium (HPC 2006), Huntsville, AL, Apr. 2006.
- ◇ Program Committee Member:
  - 5th Int'l Workshop on Parallel Matrix Algorithms and Applications (PMAA 2008), Neuchâtel, Switzerland, Jun. 2008.
  - 3rd HPC-GECO/Compframe Workshop, Montreal, Canada, Oct. 2007
  - Int'l Parallel and Distributed Processing Symposium (IPDPS 2006), Long Beach, CA, Apr. 2007.
  - 4th Int'l Workshop on Parallel Matrix Algorithms and Applications (PMAA 2006), Rennes, France, Sep. 2006.
  - 2nd HPC-GECO/Compframe Workshop, Paris, France, Jun. 2006.
  - High Performance Computing Symposium (HPC 2005), San Diego, CA, Apr. 2005.
  - Int'l Conference of Computational Science and Applications (ICCSA 2004), Italy, May 2004.
- ◇ Workshop and Minisymposium Organizer at Professional Meetings:
  - 7th Int'l Conference on Parallel Processing and Applied Mathematics (PPAM 2007), Gdansk, Poland, Sep. 2007.
  - 12th SIAM Parallel Processing Conference, San Francisco, CA, Feb. 2006.
  - 11th SIAM Parallel Processing Conference, San Francisco, CA, Feb. 2004.
  - 7th Int'l Workshop on Applied Parallel Computing (PARA 2004), Lyngby, Denmark, Jun. 2004.
- ◇ Member of Professional Societies:
  - Sigma Xi, The Scientific Research Society; SIAM; IEEE Computer Society; Association of Women in Mathematics.
- ◇ Reviewer for Scientific Journals:
  - Concurrency and Computation: Practice and Experience.
  - Parallel Computing.
  - SIAM Journal on Matrix Analysis.
  - SIAM Journal on Scientific Computing.
  - Numerical Linear Algebra with Applications.
  - ACM Transactions on Mathematical Software.
  - IEEE Transactions on Parallel and Distributed Systems.
- ◇ Reviewer for Grant Proposals: National Science Foundation Panel Participant, May 2000.

## Courses Developed and Taught

### ◇ Undergraduate Courses:

- High-Performance Computing for Scientific and Engineering Applications (Spring 2007),  
Computer Networks (6 times), Computer Organization (5 times), Computer Architecture (3 times).

### ◇ Graduate Courses:

- Computational Grids (1 time), Advanced Computer Architecture (1 time),  
Parallel and Distributed Computing (1 time), Graduate Seminar on Mobile Computing (1 time).

## Graduate Faculty Service

### ◇ Supervised 2 Ph.D. students at Iowa State University.

### ◇ Directed Master's theses:

1. Anurag Sharda, "Using derivative-free optimization in *ab initio* nuclear structure calculations" [tentative], expected Aug. 2008.
2. Teena Gulabani, "Component representations of NWChem" [tentative], expected Aug. 2008.
3. Fang Peng, "The component-based application for GAMESS", Nov. 2007.
4. Nurzhan Ustemirov, "Efficient execution of electronic structure calculations on SMP clusters", May 2006.
5. Paul Gordon, "Using NICAN for the monitoring and reporting of environmental conditions on multiple nodes during the execution of the parallel program GAMESS", May 2005.
6. Suchitra Goopy, "Improving usability of the parallel algebraic recursive multilevel solver", Dec. 2004.
7. Sam Storie, "Aspects of communication subsystem analysis for distributed scientific applications", May 2004.
8. Deepa Krishnamoorthy, "Experiments with parallel algebraic multilevel solvers for solving very large sparse linear systems", May 2003.
9. Devdatta Kulkarni, "Integration of dynamic network information into distributed scientific applications", May 2002.
10. Gan Chen "Providing dynamic network information to distributed applications", May 2001.
11. Anand Nagarajan, "Distributed graph coloring algorithms in linear systems", May 2001.
12. Vishwas Raman, "A high-throughput computing system with user-initiated checkpointing", May 2000.
13. Purushottam Kulkarni, "Some methods for parallelizing decision tree learning", May 2000.