

VITA

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Education

University of Maryland	Ph.D. (Mathematics)	1970
University of Chicago	Visiting Graduate Student	1969-70
University of Maryland	M.S. (Mathematics)	1969
University of Notre Dame	B.A. (Mathematics)	1965

Areas of Specialization Parallel Computing, Program Visualization, Automated Theorem Proving, Logic Programming, Database Technology, Systems Software

Professional Experience

Acting Division Director, MCS	Argonne National Laboratory	2005–
Senior Computer Scientist	Argonne National Laboratory	1989–
Adjunct Professor	University of Chicago	1997–
Computer Scientist	Argonne National Laboratory	1982-1989
Scientific Director	Advanced Computing Research Facility	1989-1997
Professor	Northern Illinois University (on leave)	1982-83
Scientist-in-Residence	Argonne National Laboratory	1980-81
Associate Professor	Northern Illinois University	1978-82
Acting Director	NIU Division of Computer Science	1979
Assistant Professor	Northern Illinois University	1970-78

Awards

University of Chicago Medal for Distinguished Performance, 2000

R&D 100 Magazine Award for “MPICH2 1.0: Bringing Advanced New Capabilities to Parallel Computing”, 2005

Books

1. *Automated Reasoning: Introduction and Applications*, with L. Wos, R. Overbeek, and J. Boyle, Prentice-Hall, Englewood Cliffs, New Jersey, 1984. (Japanese Edition, McGraw-Hill, New York, 1987).
2. *Designing IMS Data Bases from Entity-Relationship Models*, with R. Overbeek and B. Parrello, Auerbach Publishers, Inc., 1985.
3. *Portable Programs for Parallel Processors*, with J. Boyle, R. Butler, T. Disz, B. Glickfeld, R. Overbeek, J. Patterson, and R. Stevens, Holt, Rinehart, and Winston, New York, New York, 1987.
4. *Automated Reasoning: Introduction and Applications, 2nd Edition*, with L. Wos, R. Overbeek, and J. Boyle. McGraw-Hill, New York, 1992.

5. *Using MPI: Portable Parallel Programming with the Message-Passing Interface*, with W. Gropp and A. Skjellum, MIT Press, Cambridge, Massachusetts, 1994.
6. *MPI – The Complete Reference: Volume 2, the MPI-2 Extensions*, with W. Gropp, S. Huss-Lederman, A. Lumsdaine, B. Nitzberg, W. Saphir, and M. Snir, MIT Press, Cambridge, Massachusetts, 1998.
7. *Using MPI: Portable Parallel Programming with the Message-Passing Interface (2nd Edition)*, with W. Gropp and A. Skjellum, MIT Press, Cambridge, Massachusetts, 1999.
8. *Using MPI-2: Advanced Features of the Message-Passing Interface*, with W. Gropp and R. Thakur, MIT Press, Cambridge, Massachusetts, 1999. (Japanese Edition, Pearson Education Japan, 2002).

Books Edited

1. Proceedings of the 9th Conference on Automated Deduction, E. Lusk and R. Overbeek (eds.), *Springer Lecture Notes in Computer Science, n. 310.*, Springer-Verlag, 775 pages, 1988.
2. Logic Programming, Proceedings of the 1989 North American Conference, E. Lusk and R. Overbeek (eds.), MIT Press, 1989.
3. *Beowulf Cluster Computing with Unix (2nd Edition)*, T. Sterling, W. Gropp, and E. Lusk (eds.), MIT Press, Cambridge, Massachusetts, 2003.

Book Chapters

1. “Wos and Automated Deduction at Argonne: the Ethos” (with R. Overbeek), in *Automated Reasoning and its Applications: Essays in Honor of Larry Wos*, Robert Veroff (ed.), MIT Press, Cambridge, Massachusetts, 1997.
2. “Parallel Programming with MPI” (with W. Gropp), in both *Beowulf Cluster Computing with Linux*, Thomas Sterling (ed.), MIT Press, 2002, and in *Beowulf Cluster Computing with Windows*, Thomas Sterling, ed., MIT Press, 2002.
3. “Advanced Topics in MPI Programming” (with W. Gropp), in both *Beowulf Cluster Computing with Linux*, Thomas Sterling, ed., MIT Press, 2002, and in *Beowulf Cluster Computing with Windows*, Thomas Sterling, ed., MIT Press, 2002.
4. “Introduction to Parallel Programming” (with R. Butler and W. Gropp), in *Beowulf Cluster Computing with Unix (Second Edition)*, T. Sterling, W. Gropp, and E. Lusk (eds.) MIT Press, Cambridge, Massachusetts, 2003.

Articles in Refereed Journals and Conference Proceedings

1. Embeddings of bounded topological manifolds, with J. Dancis, *Ill. J. Math.*, 17, 1973, pp. 489-504.

2. Level-preserving approximations and isotopies, and homotopy groups of spaces of embeddings, *Ill. J. Math.*, 18, 1974, pp. 147-159.
3. An obstruction to extending isotopies of PL manifolds, *Pac. J. Math.*, 56, 1975, pp. 575-579.
4. A spectral sequence approach to embedding spaces, *Ill. J. Math.*, 18, 1975, pp. 438-490.
5. Coincidence point results for spaces with free Z_p - actions, with F. Cohen, *Proc. Amer. Math. Soc.*, 49, 1975, pp. 245-252.
6. The mod p Smith index and a generalized Borsuk-Ulam theorem, *Michigan J. Math.*, 22, 1975, pp. 151-160.
7. Configuration-like spaces and the Borsuk-Ulam theorem, with F. Cohen, *Proc. Amer. Math. Soc.*, 56, 1976, pp. 313-317.
8. An advanced undergraduate course in applied computer science, *SIGCSE Bulletin*, 9, 1977, pp. 28-39.
9. A practical design methodology for the implementation of IMS databases, using the entity-relationship model, with R. A. Overbeek, *Proceedings of the ACM-SIGMOD*, pp. 9-21, May 1980.
10. Data structures and control architecture for the implementation of theorem-proving programs, with R. A. Overbeek, *Proceedings of the Fifth Conference on Automated Deduction, Les Arcs, France, Springer-Verlag Lecture Notes in Computer Science, Vol. 87*, ed. Robert Kowalski and Wolfgang Bibel, Springer-Verlag, New York, 1980, pp. 232-249.
11. A DML for entity relationship models, with R. A. Overbeek, *Proceedings of the International Conference on Entity-Relationship Approach to Systems Analysis and Design*, ed. P. P. Chen, North-Holland, Amsterdam, 1980, pp. 484-500.
12. An automated reasoning system, with L. Wos and S. K. Winker, *Proceedings of the National Computer Conference, Vol. 50*, 1981, pp. 697-702.
13. Semigroups, antiautomorphisms, and involutions: A computer solution to an open problem I, with L. Wos and S. Winker, *Mathematics of Computation*, 37, no. 156, 1981, pp. 533-545.
14. Experiments with resolution-based theorem-proving algorithms, with R. A. Overbeek, *Computers and Mathematics with Applications*, 8, no. 3, 1982, pp. 141-152.
15. Logic machine architecture: inference mechanisms, with William W. McCune and R. A. Overbeek, *Proceedings of the Sixth Conference on Automated Deduction, Springer-Verlag Lecture Notes in Computer Science, Vol. 138*, ed. D. W. Loveland, Springer-Verlag, New York, 1982, pp. 85-108.
16. Logic machine architecture: kernel functions, with William W. McCune and R. A. Overbeek, *Proceedings of the Sixth Conference on Automated Deduction, Springer-Verlag Lecture Notes in Computer Science, Vol. 138*, ed. D. W. Loveland, Springer-Verlag, New York, 1982, pp. 70-84.

17. Tools for the creation of IMS database designs from entity-relationship diagrams, with Geoffrey Margrave and R. A. Overbeek, *Entity-Relationship Approach to Software Engineering*, ed. Carl G. Davis, Sushil Jajodia, Peter A. Ng, and Raymond T. Yeh, North-Holland, New York, 1983, pp. 501-515.
18. Item tracking entity-relationship models, with R. Overbeek and G. Petrie, *Proceedings of the Second Conference on the Entity-Relationship Approach to Information Modeling and Analysis*, ed. Peter P. Chen, North-Holland, Amsterdam, 1983, pp. 215-236.
19. Automated reasoning in man-machine control systems, with Rex Stratton, *Learning Systems and Pattern Recognition in Industrial Control, Proc. of the Ninth Annual Advanced Control Conference, Sept. 19-21, 1983*, ed. E. J. Kompass and T. J. Williams, Technical Publishing Company, 1983, pp. 41-47.
20. Comment atteindre le milliard d'inferences par seconde, with R. A. Overbeek, *Intelligence Artificielle et Productique*, Novembre 1984, pp. 5-7.
21. A portable environment for research in automated reasoning, with R. A. Overbeek, *Proceedings of the 7th International Conference on Automated Deduction, Springer-Verlag Lecture Notes in Computer Science, Vol. 170*, ed. R. E. Shostak, Springer-Verlag, New York, 1984, pp. 43-52.
22. Multiprocessing using macro packages that implement monitors, with R. A. Overbeek, *Proceedings for the Argonne Workshop on Programming the Next Generation of Supercomputers*, Mathematics and Computer Science Division, Argonne National Laboratory, October 1984, pp. 91-108.
23. Logic programming on the HEP, with J. Gabriel, T. Lindholm and R. Overbeek, *Parallel MIMD Computation: The HEP Supercomputer and its Applications*, ed. J. S. Kowalik, The MIT Press, 1985.
24. Use of monitors in FORTRAN: A tutorial on the barrier, self-scheduling DO-loop, and askfor monitors, with R. A. Overbeek, *Parallel MIMD Computation: The HEP Supercomputer and its Applications*, ed. J. S. Kowalik, The MIT Press, 1985. (Also ANL-84-51, Argonne National Laboratory, July 1984).
25. Non-horn problems, with R. A. Overbeek, *Journal of Automated Reasoning*, 1, no. 1, 1985, pp. 103-114.
26. Reasoning about equality, with R. A. Overbeek, *Journal of Automated Reasoning*, 1, no. 2, 1985, pp. 209-227.
27. General ledger systems and the design of entity-relationship models, with R. A. Overbeek and Bruce Parrello, *Journal of Data and Knowledge Engineering*, 1, North-Holland, 1985, pp. 155-180.
28. A technique for achieving portability among multiprocessors: Implementation on the Lemur, with J. Clausing, R. Hagstrom, and R. Overbeek, *Parallel Computing*, 2, no. 2, June 1985, pp. 137-162.

29. An entity-relationship model for nuclear power plants, with R. Colley, S. Seeman, D. Smith, J. Gabriel, and R. A. Overbeek, *Proceedings of the 1985 International Topical Meeting on Computer Applications for Nuclear Power Plant Operation and Control*, Tri-Cities, Washington, 1985, pp. 765-770.
30. The role of multiprocessors in the nuclear power industry: Comments on determining factors, with R. A. Overbeek, *Proceedings of the 1985 International Topical Meeting on Computer Applications for Nuclear Power Plant Operation and Control*, Tri-Cities, Washington, 1985, pp. 771-775.
31. Databases and automated reasoning, with R. A. Overbeek, *Proceedings of the 1985 International Topical Meeting on Computer Applications for Nuclear Power Plant Operation and Control*, Tri-Cities, Washington, 1985, pp. 604-610.
32. The tradeoffs among portability, complexity, and efficiency in multiprocessing environments, with R. A. Overbeek, *Proceedings of the Workshop on Parallel Processing Using the Heterogeneous Element Processor*, Norman, Oklahoma, March 1985, pp. 245-260.
33. Set theory in first-order logic: clauses for Goedel's axioms, with R. Boyer, W. McCune, R. Overbeek, M. Stickel, and L. Wos, *Journal of Automated Reasoning*, 2, no. 3, 1986, pp. 277-327.
34. Parallel logic programming for numeric applications, with R. Butler, W. McCune, and R. Overbeek, *Proceedings of the Third Conference on Logic Programming*, Springer-Verlag Lecture Notes in Computer Science, Vol. 225, ed. Ehud Shapiro, Springer-Verlag, New York, 1986, pp. 375-388.
35. Paths to high-performance automated theorem proving, with R. Butler, W. McCune, and R. Overbeek, *Proceedings of the Eighth International Conference on Automated Deduction*, Springer-Verlag Lecture Notes in Computer Science, Vol. 230, ed. J. H. Siekmann, Springer-Verlag, New York, 1986, pp. 588-597.
36. A minimalist approach to portable, parallel programming, with R. A. Overbeek, *The Characteristics of Parallel Algorithms*, ed. Leah H. Jamieson, Dennis B. Gannon, and Robert J. Douglass, The MIT Press, Cambridge, Massachusetts, 1987, pp. 351-362.
37. Using automated reasoning tools; a study of the semigroup F_2B_2 , with R. McFadden, *Semigroup Forum*, 36, no. 1, 1987, pp. 75-88.
38. Advanced computing research and algorithm design for different computers, with J. Dongarra, *Parallel Computations and Their Impact on Mechanics*, A. K. Noor, ed., AMD Vol. 86, 1987, pp. 49-55.
39. Experiments with OR-parallel logic programs, with T. Disz and R. Overbeek, *Proceedings of the 4th International Conference on Logic Programming*, Melbourne, 1987, pp. 576-600.
40. A graphical tool for observing the behavior of parallel logic Programs, with T. Disz, *Proceedings of the 1987 Symposium on Logic Programming*, San Francisco, California, 1987, pp. 46-53.

41. Automated reasoning and knowledge base design in the scientific programming environment, with R. A. Overbeek, *Problem Solving Environments for Scientific Computing*, ed. B. Ford and F. Chatelin, North Holland, New York, 1987, pp. 83-96.
42. Scheduling OR-Parallelism: an Argonne perspective, with Ralph Butler, Terry Disz, Robert Olson, Ross Overbeek, and Rick Stevens, *Proceedings of the Fifth International Conference and Symposium on Logic Programming*, Ed. R. Kowalski and K. Bowen, MIT Press, 1988, pp. 1590-1608.
43. The Aurora OR-Parallel Prolog System, with others at Argonne, the Swedish Institute of Computer Science, and the University of Bristol, *Proceedings of the Fifth Generation Computer Systems Conference*, Tokyo, 1988, pp. 819-830.
44. Combinatorial Results Relating to Products of Idempotents in Finite Full Transformation Semigroups, with John M. Howie and Robert B. McFadden, *Proceedings of the Royal Society of Edinburgh*, 115A, 289-299.
45. The Aurora Or-Parallel Prolog System, with R. Butler, T. Disz, R. Olson, R. Overbeek, R. Stevens, D. H. D. Warren, A. Calderwood, P. Szeredi, S. Haridi, P. Brand, A. Ciepielewski, B. Hausman, *New Generation Computing* 7 (1990), pp 243-271.
46. Automated reasoning contributes to mathematics and logic, in *Proceedings of the 10th International Conference on Automated Deduction, Lecture Notes in Artificial Intelligence, vol. 449*, pages 485-499, New York, July 1990, Springer-Verlag.
47. Parallelizing the Closure Computation in Automated Deduction, with John K. Slaney, in *Proceedings of the 10th Conference on Automated Deduction, Springer Lecture Notes in Computer Science, v. 449*, pp. 28-39, New York, July 1990, Springer-Verlag.
48. Prototyping Databases in Prolog, with T. Kazic, E. Lusk, R. Olson, R. Overbeek, and S. Tuecke, in *The Practice of Prolog*, L. Sterling, ed., MIT Press, 1991.
49. Subsumption, a Sometimes Undervalued Procedure, with Larry Wos and Ross Overbeek, pp. 3-40 in *Computational Logic: Essays in Honor of Alan Robinson*, Jean-Louis Lassez and Gordon Plotkin, Eds., MIT Press, Cambridge, Massachusetts, 1991.
50. ROO: a Parallel Theorem Prover, in *Proceedings of PPAI-91: International Workshop on Parallel Processing for AI*, edited by Laveen Kanal and Christian B. Suttner, pp. 110-116. August 24-25, Sydney, Australia, August, 1991.
51. Experiments with ROO: A Parallel Automated Deduction System, (with W. McCune, in *Parallelization in Inference Systems*, edited by B. Fronhöfer and G. Wrightson, vol. 590 of Springer-Verlag Lecture Notes in Artificial Intelligence, 1992, pp.139-162, Springer Verlag.
52. Benchmark problems in which equality plays the major role, with Larry Wos, in *Automated Deduction-CADE-11*, Springer Lecture Notes in Computer Science, v. 607, pp. 781-785, New York, 1992, Springer-Verlag.
53. ROO: A Parallel Theorem Prover (with W. McCune and J. Slaney). In *Proceedings of CADE-11*, edited by Deepak Kapur, Springer Lecture Notes in Artificial Intelligence, vol. 607, pp. 731-734.

54. Controlling redundancy in large search spaces: Argonne-style theorem proving through the years (invited lecture), in *Logic Programming and Automated Reasoning*, edited by A. Voronkov, Springer Lecture Notes in Computer Science, v. 624, pp. 96–106, New York, 1992, Springer-Verlag.
55. Performance Visualization for Parallel Programs, In *Theoretica Chimica Acta*, vol. 84 (1993), pp. 377–384.
56. Applications of the Aurora Parallel Prolog System to Computational Molecular Biology (with S. Mudambi, R. Overbeek, and P. Szeredi). *Logic Programming: Proceedings of the 1993 International Symposium*, Dale Miller, ed., MIT Press, pp. 353–369.
57. Concurrent Replicated Simulation of Anti-Air Warfare (with J. Kimbel and C. Renolet). *Simulation in Military and Government*, edited by M. Chinni, 1993, pp. 27–31.
58. Uniform Strategies: The CADE-11 Theorem-Proving contest (with W. McCune. *Journal of Automated Reasoning*, v. 11, no. 3 (1993), pp. 317–331.
59. p4-Linda: A Portable Implementation of Linda (with R. Butler and A. Leveton). *Proceedings of the Second International Symposium on High-Performance Distributed Computing*, Spokane, WA, IEEE, pp. 50–58, July 1993.
60. Scalable Unix Tools on Parallel Processors (with W. Gropp) *Proceedings of the Scalable High-Performance Computing Conference*, IEEE, 1994, pp. 56–62.
61. SCOTT: Semantically Constrained Otter (with J. Slaney and W. McCune), in *Proceedings of CADE-12*, ed. Alan Bundy, Springer-Verlag, 1994.
62. Monitors, Messages, and Clusters: the p4 Parallel Programming System (with R. Butler). *Parallel Computing*, 20 (1994) pp. 547–564.
63. Early Applications in the Message-Passing Interface (with A. Skjellum and W. Gropp), *International Journal of Supercomputing Applications*, 9(2):79–94, June 1995.
64. Experiences with the IBM SP (with W. Gropp), *IBM Systems Journal*, 34(2):249–262, 1995.
65. Dynamic process management in an MPI setting (with W. Gropp), in *Proceedings of the Seventh IEEE Symposium on Parallel and Distributed Processing*, pages 530–534. IEEE Press, October 1995.
66. A taxonomy of programming models for symmetric multiprocessors and SMP clusters (with W. Gropp), in W. K. Giloi, S. Jahnichen, and B.D. Shriver, editors, *Programming Models for Massively Parallel Computers*, pages 2–7. IEEE Press, October 1995.
67. A high-performance, portable implementation of the MPI message passing interface standard (with W. Gropp, Nathan Doss, and Anthony Skjellum), *Parallel Computing*, 22:789–828, 1996.
68. MPI-2: extending the message-passing interface (with A. Geist, W. Gropp, S. Huss-Lederman, A. Lusdaine, W. Saphir, A. Skjellum, and M. Snir), *Euro-Par Parallel Processing*, Luc Bouge, Pierre Fraigniaud, Anne Mignotte, Yves Robert, Eds. *Springer Lecture Notes in Computer Science*, no. 1123, Springer-Verlag, 1996, pp. 128–135.

69. An abstract-device interface for implementing portable parallel I/O interfaces (with R. Thakur and W. Gropp), in *Proceedings of the 6th Symposium on the Frontiers of Massively Parallel Computation*, pp. 180–187, 1996.
70. An experimental evaluation of the parallel I/O systems of the IBM SP and Intel Paragon using a production application, (with R. Thakur and W. Gropp), in *Proceedings of the 3rd International Conference of the Austrian Center for Parallel Computation with Special Emphasis on Parallel Databases and Parallel I/O*, Springer Lecture Notes in Computer Science, 1127, Springer-Verlag, 1996, pp. 24–35.
71. A high-performance MPI implementation on a shared-memory vector supercomputer (with W. Gropp), *Parallel Computing*, 22:1513–1526, 1997.
72. Sowing MPICH: a case study in the dissemination of a portable environment for parallel scientific computing (with W. Gropp), in *International Journal of Supercomputer Applications and High-Performance Computing*, vol 11, No. 2 (1997), pp. 103-114.
73. MPI-2: Standards beyond the message-passing model, to appear in *Programming Models for Massively Parallel Computers*, IEEE Press, 1998.
74. Why are PVM and MPI so Different? (with W. Gropp) in *Recent Advances in Parallel Virtual Machine and Message Passing Interface*, 4th European PVM/MPI Users' Group Meeting, Cracow, Poland, November 1997, edited by Marian Bubak, Jack Dongarra, and Jerzy Wasniewski, Springer Lecture Notes in Computer Science 1332, 1997, pp. 3–10.
75. 1997 Gordon Bell Prize Winners (with A. Karp and D. H. Bailey), *IEEE Computer*, vol 31, no. 1, January 1998, pp.86-92.
76. I/O in Parallel Applications: The Weakest Link (with R. Thakur and W. Gropp), *The International Journal of Supercomputer Applications and High Performance Computing*, vol 12, no. 4, pp. 389-395.
77. Wide-Area Implementation of the Message Passing Interface, by Ian Foster, Jonathan Geisler, William Gropp, Nicholas Karonis, Ewing Lusk, George Thiruvathukal, Steven Tuecke, *Parallel Computing* 24 (12-13), (November 1998), pp. 1735-1749.
78. Scalable Performance Visualization with Jumpshot, with O. Zaki, W. Gropp, and D. Swider, *International Journal of Supercomputer Applications and High Performance Computing* 13, no. 3, 1999, pp. 277–288.
79. A Case for the Use of MPI Datatypes in Parallel I/O, (with R. Thakur and W. Gropp), *Proceedings of SC'98, High Performance Networking and Computing (CD)*, November 1998.
80. On Implementing MPI-IO Portably and with High Performance (with R. Thakur and W. Gropp), *Proceedings of the 6th Workshop on I/O in Parallel and Distributed Systems*, ACM Press, May, 1999, pp. 23-32.
81. Data Sieving and Collective I/O in ROMIO (with R. Thakur and W. Gropp), *Proceedings of the 7th Symposium on the Frontiers of Massively Parallel Computation*, IEEE Society Press, February 1999, pp. 182-189.

82. Reproducible measurements of MPI performance characteristics, (with Bill Gropp), in *Recent Advances in Parallel Virtual Machine and Message Passing Interface*, Springer-Verlag Lecture Notes in Computer Science #1897, edited by Jack Dongarra, Emelio Luque, and Tomas Margalef, pp. 11-18.
83. "FLASH Code: Studying Astrophysical Thermonuclear Flashes," (with Robert Rosner, Alan Calder, Jonathan Dursi, Bruce Fryxell, Donald Q. Lamb, Jens C. Niemeyer, Keven Olson, Paul Ricker, Rick Stevens, Frank X. Timmes, James W. Truran, Henry Tufo, Yuan-Nan Young, and Michael Zingale), in *Computing in Science and Engineering*, vol. 2, no. 2 (March/April 2000), pp. 33-41.
84. "Exploiting Hierarchy in Parallel Computer Networks to Optimize Collective Operation Performance," (with Nicholas Karonis, Bronis R. de Supinski, Ian Foster, William Gropp, and John Bresnahan), in *Proceedings of the Fourteenth International Parallel and Distributed Processing Symposium*, May 2000, Cancun, Mexico, pp. 377-384.
85. "From Trace Generation to Visualization: A Performance Framework for Distributed Parallel Systems," (with E. Eric Wu, Anthony Bolmarcich, Marc Snir, David Wootton, Farid Parpia, Anthony Chan, and William Gropp), in *Proceedings of SC'00 (CD)*.
86. "A Scalable Process Management Environment for Parallel Programs," (with R. Butler and W. Gropp), in *Recent Advances in Parallel Virtual Machine and Message Passing Interface*, Jack Dongarra, Peter Kacsuk, and Norbert Podhorszke, eds., Springer Lecture Notes in Computer Science #1908, September, 2000, pp. 168-175.
87. "Scalable Unix Commands for Parallel Processors: A High-Performance Implementation" (with E. Ong and W. Gropp), in Y. Cotronis and J. Dongarra, eds., *Recent Advances in Parallel Virtual Machine and Message Passing Interface*, Springer Lecture Notes in Computer Science #2131, 2000, pp. 410-418.
88. "Optimizing Noncontiguous Accesses in MPI-IO" (with Rajeev Thakur and William Gropp), *Parallel Computing*, 2001.
89. "Components and Interfaces of a Process Management System for Parallel Programs" (with Ralph Butler and William Gropp), *Parallel Computing* 27 (2001), pp. 1417-1429.
90. "ACL2 for Parallel Systems Software" (with William McCune), in *Proceedings of the 2nd ACL2 Workshop*, ed. by Matt Kaufmann and J Strother Moore, University of Texas, <http://www.cs.utexas.edu/users/moore/acl2/workshop-2000>.
91. "Optimizing Noncontiguous Accesses in MPI-IO" (with Rajeev Thakur and William Gropp), *Parallel Computing* 28 (2001), no. 1, pp. 83-105.
92. "Components and Interfaces of a Process Management System for Parallel Programs" (with R. Butler and W. Gropp), *Parallel Computing* 27 (2001), pp. 1417-1429.
93. "Goals guiding design: PVM and MPI" (with W. Gropp), in William Gropp, Rob Pennington, Dan Reed, Mark Baker, Maxine Brown, and Rajkumar Buyya, eds., *Proceedings of the 2002 IEEE International Conference on Cluster Computing*, IEEE Computer Society Press, pp. 257-265.

94. "SPINning Parallel Systems Software" (with O. Matlin and W. McCune) in *Model Checking Software: Proceedings of the 9th International SPIN Workshop on Model Checking of Software*. Springer-Verlag Lecture Notes in Computer Science #2318, April 2002, pp. 213-220.
95. "Fault Tolerance in MPI Programs," (with W. Gropp), *The International Journal of High-Performance Computing Applications*, vol. 18, n. 3, pp. 363-372.
96. "The Process Management Component of a Scalable Systems software Environment," *Proceedings of the 2003 International conference on Cluster Computing*, IEEE Press, 2003, pp. 190-198.
97. "MPI Cluster System Software," (with N. Desai, R. Bradshaw, and A. Lusk), Dieter Kranzlmuller, Peter Kacsuk, and Jack Dongarra, Eds., *Recent Advances in Parallel Virtual Machine and Message Passing Interface*, Springer Lecture Notes in Computer Science #3241, September 2004, pp 277-286.
98. "Component-Based Cluster System Software Architecture: A Case Study", (with N. Desai, R. Bradshaw, A. Lusk, and R. Butler), in *Proceedings of the 2004 International Conference on Cluster Computing*, IEEE Press, September, 2004.
99. "MPISH: A Parallel Shell for MPI Programs", (with N. Desai, R. Bradshaw, and A. Lusk), in *Proceedings of the First Workshop on System Management Tools for Large Scale Parallel Systems*, 2004.
100. "MPISH2: Unix Integration for MPI Programs", (with N. Desai and R. Bradshaw), in Beniamino De Martino, dieter Kranzlmuller, and Jack Dongarra, Eds., *Proceedings of the 12th European PVM/MPI Users' Group meeting, Recent Advances in Parallel Virtual Machine and Message Passing Interface*, Lecture Notes in Computer Science 3666, Springer, 2005, pp. 333-342.
101. "Collective Error Detection for MPI Collective Operations," (with C. Falzone, A. Chan, and W. Gropp), in *Proceedings of the 12th European PVM/MPI Users' Group meeting, Recent Advances in Parallel Virtual Machine and Message Passing Interface*, Lecture Notes in Computer Science 3666, Springer, 2005, pp. 138-147.
102. "An Interoperability Approach to System Software, Tools, and Libraries for Clusters," (with N. Desai, R. Bradshaw, A. Lusk, and R. Butler), in *International Journal of High Performance Computing Applications*, 2006 (in press).

Selected Invited Oral Presentations

1. "Standards in Message Passing, Shared Memory, and I/O: the MPI Approach" Brown University, Providence, Rhode Island, October 25, 1996.
2. "Programming Models for Parallel Computing", DARPA-NSF Workshop on Optimized Portable Application Libraries, Washington, D.C., October 31, 1996.
3. "Tuning MPI Applications for Peak Performance" (tutorial, with W. Gropp), Supercomputing '96, Pittsburgh, Pennsylvania, December 12, 1996.
4. "MPI-2", Euro-MPI Workshop, Edinburgh, Scotland, February 13, 1997.

5. "Standards in Message-Passing, shared-memory, and I/O, the MPI approach" University of Illinois, Champagne, Illinois, February 17, 1997.
6. "Tuning MPI Applications for Peak Performance" (tutorial, with W. Gropp), Supercomputing '97, San Jose, California, November 17, 1997.
7. "Advanced Use of MPI", European PVM-MPI User's Group meeting, Crakow, Poland, November 1997.
8. "Recent Developments in MPI: Extending the Message Passing Interface for Scalable Parallel Computing", Microsoft Research, Redmond, WA, January 19, 1998.
9. "Recent Developments in MPI: Extending the Message Passing Interface for Scalable Parallel Computing", University of Notre Dame, Notre Dame, Indiana, January 22, 1998.
10. "MPI: A Standards-Based Approach to Scalable Parallel Computing", keynote lecture at The Second Annual National Symposium on Computational Science and Engineering, NECTEC, Bangkok, Thailand, March 26, 1998,
11. "Scalable Program Visualization with Jumpshot", invited talk, Workshop on Parallel Tools and Environments, Blackberry Farm, Tennessee, September 9, 1998.
12. "Advanced Use of MPI", Cracow, Poland, November 1997.
13. "MPI and MPI-2", NPACI, La Jolla, California, August 19, 1997.
14. "I/O for Parallel Computing", August 20, 1997.
15. "MPI-2: Standards Beyond the Message-Passing Model", Workshop on Massively Parallel Programming Models, London, October, 1997.
16. "Recent Developments in MPI: Extending the Message Passing Interface for Scalable Parallel Computing", Microsoft Research, Redmond, Washington, January 19, 1998.
17. "Recent Developments in MPI: Extending the Message Passing Interface for Scalable Parallel Computing", University of Notre Dame, January 22, 1998.
18. "MPI: A Standards-Based Approach to Scalable Parallel Computing", keynote lecture at The Second Annual National Symposium on computational Science and Engineering, NECTEC, Bangkok, Thailand, March 26, 1998.
19. "MPI-2 Update", Ptools Annual Meeting, NCAR, Boulder, Colorado, May 4, 1998.
20. "Computer Science and Enabling Technology for Advanced Simulation", SPWorld, Toronto, Canada, August, 1998.
21. "Scalable Performance Visualization with Jumpshot", NSF-INRIA Workshop on Clusters and Computational Grids for Scientific Computing, Blackberry Farm, Tennessee, September 9, 1998.
22. "Why and How to Distribute Portable Software", University of Chicago Computer Science Department seminar, January 23, 1999.

23. "Scalable Performance Visualization", Ptools annual meeting, Boulder, Colorado, April 20, 1999.
24. "MPI - A State of the Universe Report", Keynote talk at European PVM/MPI Conference, September 27, 1999.
25. "MPI and MPICH implementation issues", Workshop on MPI Implementation, Los Alamos, New Mexico, March 15, 1999.
26. "Parallel I/O in MPI", SIO - ASCI workshop, Livermore, California, January 12, 1999.
27. "MPI and MPICH on Clusters," JPDC4, Oct. 7. 1999, Oak Ridge, Tennessee.
28. "Tools for Parallel Computing," Central States Universities, Inc. Conference at Argonne, March 31, 2000.
29. "Isolating and Interfacing the Components of a Parallel Computing Environment," 7th European PVM/MPI Conference, Balatonfured, Hungary, September 13, 2000.
30. "Scalable Process Management on Clusters," Workshop on Clusters and Grids for Scientific Computing, Lyon, France, September 25, 2000.
31. "Scalable Process Management and Interfaces for Clusters", University of Notre Dame, October 13, 2000.
32. "Scalable Unix Tools," Ptools Workshop, San Diego Supercomputer Center, May 16, 2001.
33. "Fun with Parallel Process Management," San Diego Supercomputer Center, May 18, 2001.
34. "Parallel Programming with MPI on Clusters", Cluster 2001, Newport Beach, October 2001.
35. "Parallel Programming with MPI", HP/Compaq Workshop at SC'01, Denver, November 2001.
36. "FLASH Computer Science", Lawrence Livermore National Laboratory, Livermore, February 2002.
37. "Process Management for BG/L", at ASCI Blue Gene Workshop, Lake Tahoe, August 2002.
38. "Process Management and MPI", Workshop on Communication for Advanced Programming Models, Fort Lauderdale, August 2002.
39. "Process Management for scalable Parallel Programs", 9th European PVM/MPI Users Group Meeting, Linz, Austria, September 2002.
40. "MPI in 2002: Has it Really Been Ten Years Already?", Cluster 2002, Chicago, September 2002.
41. "Parallel Programming and MPI," Student ACM Midwest Conference, University of Illinois, October 19, 2002.

42. “MPI: Emergence of a Community Standard”, University of Chicago guest graduate class, December 5, 2002.
43. “Parallel Programming with MPI in 2003”, University of Illinois Computer Science Department seminar, February 17, 2003.
44. “A Testbed Approach for Operating systems Research”, FASTOS meeting, Washington, D.C. July 2003.
45. “Programming Models and Productivity”, DARPA HPCS Workshop, University of Maryland, August 2003.
46. “An Open Cluster System Software Stack,” EuroPVM/MPI, Budapest, Hungary, September 22, 2004.
47. “Programming Models for High Performance Computing,” DARPA Workshop on High Productivity Computing Systems, Marina del Rey, California, January 2004
48. “MPI and OpenMP,” Workshop on OpenMP Programming and Tools, Houston, May 17, 2004.
49. “Problems in the Cluster Software Programming Environment,” IEEE Cluster 2003 Workshop, Hong Kong, December 2, 2003.
50. Supercomputing 2003 Panel talk, “A Curmudgeon’s outlook on Petaflops Programming,” Nov. 19, 2003.
51. “Programming Models and Development Environments for Parallel Computing,” presentation to Committee on the future of Supercomputing, Computer Science and Telecommunications Board, National Research Council, Argonne, March 3, 2004.
52. “The Scalable Systems Software SciDAC Project,” SciDAC PI meeting, Charleston, SC, March 22, 2004.
53. “MPI on BG/L,” BlueGene Workshop, Reno, Nevada, October 14, 2003.
54. “An Interoperability Approach to Systems Software, Tools, and Libraries,” Workshop on Computational Clusters and Grids, Lyon, France, September 28, 2004.
55. “Hardware is Soft, Software is Hard,” Fall Creek Falls Workshop, Fall Creek, TN, October 18, 2004.
56. “HPCS Languages,” PMUA (Programming Models for HPCS Ultra-scale Applications) Workshop, Cambridge, MA, June 21, 2005.
57. “High Productivity Language Systems—The Path Forward,” keynote talk at PGAS (Partitioned Global Address Space) Workshop, Minneapolis, Minnesota, September 13, 2005.
58. “Components of System software for Parallel Systems,” EuroPVM/MPI Workshop, September 21, 2005.
59. “Nuclear Physics, Computer Science, and SciDAC,” Physics Division, Argonne National Laboratory, December 2005.

60. “Supercomputing Is Easier Than It Used To Be,” Lawrence Livermore National Laboratory, December 12, 2005.
61. “High Productivity Language Systems: Programming Models for HPC,” High Productivity Computing Systems Productivity Team Meeting, Marina del Rey, CA, January 10, 2006.

Tutorials

1. “Tuning MPI Programs for Peak Performance” (half-day tutorial, with W. Gropp and R. Thakur), SC’97, November, 1997.
2. “Tuning MPI Applications for Peak Performance”, (full-day tutorial, with W. Gropp and R. Thakur), SC’98, December, 1998.
3. “An MPI Tutorial”, Kasetsart University, Bangkok, Thailand, March 25, 1998.
4. “Introduction to Performance Issues in Using MPI for Communication and I/O” (tutorial with W. Gropp and R. Thakur), Seventh IEEE International Symposium on High Performance Distributed Computing (HPDC 98), July 1998.
5. “Tuning MPI Programs for Peak Performance” (half-day tutorial with W. Gropp and R. Thakur), SC’99, November, 1999.
6. “Using MPI-2,” half-day tutorial, 7th European PVM/MPI Conference, Balatonfured, Hungary, September 10, 2000.
7. “Using MPI-2” (half-day tutorial with W. Gropp and R. Thakur), SC’00, November, 2000.
8. “Using MPI-2” (full-day tutorial with W. Gropp, R. Ross, and R. Thakur), SC’01, November, 2001.
9. “MPI Programming”, half-day tutorial, 8th European PVM/MPI Conference, Santorini/Thera, Greece, April 2002.
10. “Using MPI-2” (full-day tutorial with W. Gropp, R. Ross, and R. Thakur), SC’02, November, 2002.
11. “Advanced Programming with MPI-2” (full-day tutorial with W. Gropp, R. Ross, and R. Thakur), SC’03, November, 2003.
12. “Advanced MPI: I/O and One-sided Operations” (full day tutorial with W. Gropp, R. Thakur, and R. Ross), November, 2004.
13. “Using MPI-2—A Problem Based Approach” (with W. Gropp), 12th EuroPVM/MPI Workshop, sorrento, Italy, September, 2005.
14. “Advanced MPI: I/O and One-sided Operations” (full day tutorial with W. Gropp, R. Thakur, and R. Ross), November, 2005.

Non-refereed Articles in Conference and Workshop Proceedings

1. Developing Applications for a Heterogeneous Computing Environment (with R. Butler and W. Gropp). In *Proceedings of the Workshop on Heterogeneous Processing (WHP '93)*, IEEE Computer Society Press.
2. Smoothing Rough Edges in Aurora, (with Mats Carlsson and Peter Szeredi), *Proceedings of the workshop on Parallel Logic Programming*, Madrid, 1993.
3. Visualizing Parallel Program Behavior. In *High Performance Computing 1993: Grand Challenges in Computer Simulation*, edited by Adrian Tentner, The Society for Computer Simulation, 1993, pp. 209-213.
4. The MPI Communication Library: Its Design and a Portable Implementation (with W. Gropp), in *Proceedings of the Scalable Parallel Libraries Conference*, IEEE, October 1993, pp. 160-165.
5. MPI: A Message-Passing Interface, *Proceedings of Supercomputing '93*, (with other members of the MPI Forum), November 1993, pp. 878–885.
6. Robert Sompolski, John Mateja, and Ewing Lusk. Bringing parallel computation to the college and university classroom (with Robert Sompolski and John Mateja), in *Conference on Parallel Computing for Undergraduates*. Colgate University, June 1994.
7. Performance Analysis of MPI Programs (with E. Karrels), in *Proceedings of the Workshop on Environments and Tools For Parallel Scientific Computing*, Edited by Jack Dongarra and Bernard Tourancheau, SIAM Publications, 1994, pp. 195–200.
8. Scalable X11 graphics in MPI (with Edward Karrels and William Gropp), in *Proceedings of the Parallel Scalable Libraries Conference*, IEEE Computer Society Press, 1995 pp. 49–54.
9. Implementing MPI: The 1994 implementors' workshop (with W. Gropp), in *Proceedings of the Parallel Scalable Libraries Conference*, IEEE Computer Society Press, 1995, pp. 55–59.
10. The MPI message-passing interface standard: Overview and status, in L. Grandinetti, G. R. Joubert, J. Dongarra, and J. Kowalik, editors, *High-Performance computing: Technology, Methods, and Applications*, Elsevier Science Publishers B.V., Amsterdam, 1995, pp. 265–269.
11. “Programming with MPI on Clusters,” in Daniel Katz, Thomas Sterling, Mark Baker, Larry Bergman, Marcin Paprzycki, and Rajkumar Buyya, editors, *Proceedings of the 2001 IEEE International Conference on Cluster Computing*, IEEE Press, pp. 360-364.
12. “Integrating Scalable Process Management into Component-Based Systems Software,” in *Recent Advances in Parallel Virtual Machine and Message Passing Interface*, J. Dongarra, Domenico Laforenza, and Salvatore Orlando, eds., Springer LNCS 2840, Springer-Verlag, 2003, pp. 16-22.
13. “An Open Cluster System Software Stack”, in Dieter Kranzlmuller, Peter Kacsuk, and Jack Dongarra, Eds., *Recent Advances in Parallel Virtual Machine and Message Passing Interface*, Springer Lecture Notes in Computer Science #3241, September 2004, pp 9.

14. "Components of System Software for Parallel Systems," in B. DiMartino, D. Kranzlmuller, and J. Dongarra, eds., Proceedings of the 12th European PVM/MPI Users' Group meeting, Recent Advances in Parallel Virtual Machine and Message Passing Interface, Lecture Notes in Computer Science 3666, Springer, 2005, p. 5.
15. "Are We stuck With MPI Forever?" (with W. Gropp), Invited "Head Node" column in *ClusterWorld* magazine, v. 3, n. 3 (March 2005).

Technical Reports

1. *An LMA-Based Theorem Prover*, with R. Overbeek, Technical Report ANL-82-75, Argonne National Laboratory, December 1982.
2. *Logic Machine Architecture Inference Mechanisms - Layer 2 User Reference Manual - Release 2.0*, with R. A. Overbeek, Technical Report ANL-82-84, Argonne National Laboratory, April 1984.
3. *An Approach to Programming Multiprocessing Algorithms on the Denelcor HEP*, with R. A. Overbeek, Technical Report ANL-83-96, Argonne National Laboratory, December 1983.
4. *Implementation of Monitors with Macros: A Programming Aid for the HEP and Other Parallel Processors*, with R. A. Overbeek, Technical Report ANL-83-97, Argonne National Laboratory, December 1983.
5. *The Automated Reasoning System ITP*, with R. A. Overbeek, Technical Report ANL-84-27, Argonne National Laboratory, April 1984.
6. *Research Topics: Multiprocessing Algorithms for Computational Logic*, with R. A. Overbeek, Technical Report ANL/MCS-TM-31, MCS, Argonne National Laboratory, July 1984.
7. Implementing multiprocessing algorithms now, with R. A. Overbeek, *New Directions in Software for Advanced Computer Architectures*, Technical Report ANL/MCS-TM-32, MCS, Argonne National Laboratory, August 1984, pp. 5-10.
8. Stalking the ggalip, with R. A. Overbeek, *New Directions in Software for Advanced Computer Architectures*, Technical Report ANL/MCS-TM-32, MCS, Argonne National Laboratory, August 1984, pp. 15-24.
9. Parallelism in automated reasoning systems, with R. A. Overbeek, *New Directions in Software for Advanced Computer Architectures*, Technical Report ANL/MCS-TM-32, MCS, Argonne National Laboratory, August 1984, pp. 25-34.
10. *Use of Monitors in Pascal on the Lemur: A Tutorial on the Barrier, Self-Scheduling DO-Loop, and Askfor Monitors*, with J. Clausing, R. Hagstrom, and R. A. Overbeek, Technical Report ANL-84-53, Argonne National Laboratory, July 1984.
11. *A Short Note on Achievable LIP rates Using the Warren Abstract Prolog Machine*, with J. Gabriel, T. Lindholm, and R. Overbeek, Technical Report ANL/MCS-TM-36, MCS, Argonne National Laboratory, September 1984.

12. *A Tutorial on the Warren Abstract Machine*, with J. Gabriel, T. Lindholm, and R. Overbeek, Technical Report ANL-84-84, Argonne National Laboratory, Argonne, Illinois, October 1984.
13. *A Tutorial on the Use of Monitors in C: Writing Portable Code for Multiprocessors*, with R. Overbeek and R. Olson, Technical Report ANL-85-2, Argonne National Laboratory, January 1985.
14. *Parallel Logic Programming for Numeric Applications*, with R. Butler, W. McCune, and R. Overbeek, Technical Report ANL/MCS-TM-72, MCS, Argonne National Laboratory, November 1985.
15. *Effective utilization of OR-parallelism: A modest proposal*, with R. Overbeek and L. Sterling, Technical Report ANL/MCS-TM-124, MCS, Argonne National Laboratory, June 1988.
16. Parallelizing the Closure Computation in Automated Deduction, with John Slaney, Technical Report report MCS-P123-0190, MCS, Argonne National Laboratory, January, 1990.
17. Otter experiments pertinent to CADE-10, with L. Wos, S. Winker, W. McCune, R. Overbeek, R. Stevens, and R. Butler, Technical Report ANL-89/39, Argonne National Laboratory, 1991.
18. Studying Parallel Program Behavior with *upshot*, with Virginia Herrarte, Technical Report ANL-91/15, Argonne National Laboratory, April, 1991.
19. ROO—a parallel theorem prover, with J. Slaney and W. McCune. Tech. Memo MCS-TM-149, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL, 1991.
20. Experiments with ROO, a parallel automated deduction system, with W. McCune, Preprint MCS-P254-0791, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL, 1991.
21. User's Guide to the *p4* Parallel Programming System (with Ralph Butler). ANL Tech. Report ANL-92/17.
22. An Abstract Device Definition to Support the Implementation of a High-Level Point-to-Point Message-Passing Interface (with W. Gropp), Preprint MCS-P342-1193, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL, 1993.
23. A Test Implementation of the MPI Draft Message-Passing Standard (with W. Gropp). ANL Tech. Report ANL-92/47.
24. *Users Guide for the ANL IBM SP1* (with William Gropp and Steven Pieper) ANL report, but current version is always on the Web.
25. Installation guide for MPICH, a portable implementation of MPI (with W. Gropp), Technical Report ANL-96/5, Argonne National Laboratory, 1994.

26. User's guide for `mpich`, a portable implementation of MPI (with W. Gropp), Technical Report ANL-96/6, Argonne National Laboratory, 1994.
27. MPICH working note: Creating a new MPICH device using the channel interface (with W. Gropp), Technical Report ANL/MCS-TM-213, Argonne National Laboratory, January 1996.
28. I/O characterization of a portable astrophysics application on the IBM SP and Intel Paragon (with Rajeev Thakur and William Gropp), Technical Report MCS-P534-0895, Argonne National Laboratory, October 1995.
29. User's Guide for ROMIO: a high-performance, portable MPI-IO implementation (with R. Thakur and W. Gropp, ANL/MCS-TN-234, 1997.
30. Users Guide for ROMIO: A High-Performance, Portable MPI-IO Implementation, ANL/MCS-TM-234, July 1998.
31. Data Sieving and Collective I/O in ROMIO (with Rajeev Thakur and William Gropp), Technical Report ANL/MCS-P723-0898, August 1998.
32. "Methods to Model-Check Parallel systems Software" (with O. Matlin and W. McCune), Technical Report ANL/MCS-P921-1201, 2003.

Selected Professional Activities

- Member, Association for Automated Reasoning
- Co-Chair, North American Conference on Logic Programming, Cleveland, OH, October 16-20, 1989
- Co-Chair, 9th International Conf. on Automated Deduction, Argonne National Laboratory, May 23-26, 1988
- External Review Committee, "Fonds zur Förderung der Wissenschaftlichen Forschung", the National Science Foundation of Austria, 1990.
- Editor, *Journal of Automated Reasoning*, 1987-.
- External Review Committee, ACSys Center for Advanced Computing, Australian National University, Canberra, Australia, July 1997.
- Chair, MPI-2 Forum, 1995-1997.
- Gordon Bell Prize Committee 1997-2001 (Chair, 2000-2001).
- Many program committees for conferences in parallel computing, 1986-.
- Referee for assorted journals in parallel computing, 1988-.
- Member, University of Chicago Computation Institute Executive Committee, 1999-.
- Series Editor, Scientific and Engineering Computation Series, MIT Press, 2003-.

- Chair, High-Productivity Language Systems Workshop, Oak Ridge National Laboratory, July 2006.
- Co-Chair, Nuclear Physics and Related Computational Science R&D for Advanced Fuel Cycles Workshop, Washington, D.C. August 2006.

Research Grants (non DOE)

- Co-PI, National Science Foundation Grant #MCS77-02703, “Topics in Automated Theorem Proving,” June 1977 - November 1979
- Co-PI, National Science Foundation Grant #MCS79-03870, “Topics in Automated Theorem Proving,” June 1979 - November 1982
- Co-PI, National Science Foundation Grant #MCS82-07496, “Topics in Automated Theorem Proving,” November 1982 - November 1984
- Co-PI, National Science Foundation Grant #ASC-8703548, “Institute in Parallel Computing,” January 1987 - December 1987
- Co-PI, National Science Foundation Grant #ASC-8808327, “Institute in Parallel Computing,” January 1988 - December 1988
- Co-PI, National Science Foundation Grant #ASC-88-18254, “Minority Internships in Parallel Processing,” January 1988 - December 1991
- Co-PI, National Science Foundation Grant #IRI-8915387, “Japanese/American Workshop on Future Trends in Logic Programming,” July 1989 - December 1989
- Co-PI, National Science Foundation Grant #ASC-8911439, “Institute for Parallel Computing,” July 1989 - December 1992
- Co-PI, National Science Foundation Grant #CCR-913560, “Japanese/American Workshop on Automated Reasoning,” May 1991 - September 1991
- Co-PI, U.S.-Hungarian Science and Technology Joint Fund Grant #J.F. 031/90, “Application and Development of Parallel Logic Programming Languages,” January 1991 - December 1993
- Co-PI, Office of Naval Research Grant 5000 - 1133/93/A0068, “Algorithmic Software Verification (The QED Project)”, October 1993 - September 1994