David W. Cordes

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Education:

Ph.D.   Computer Science, Louisiana State University, 1988, Baton Rouge, Louisiana
An Object-Oriented Paradigm for Requirements Specifications, Dr. Doris Carver, advisor
M.S.   Computer Science, Purdue University, West Lafayette, Indiana, 1984.
B.S.   Computer Science, University of Arkansas, Fayetteville, Arkansas, 1982.

Employment:

Department of Computer Science, The University of Alabama, Tuscaloosa, Alabama
[2005–present] Professor and Department Head
[2007 to present] Interim Director, Freshman Engineering Program
[1999–2005] Associate Professor and Department Head
[1997–1999] Associate Professor and Interim Department Head
[1993–1997] Associate Professor
[1988–1993] Assistant Professor

Department of Computer Science, Louisiana State University, Baton Rouge, Louisiana
[1985–1988] Alumni Federation Fellow

Department of Computer Science, Purdue University, West Lafayette, Indiana
[1982–1985] Teaching Assistant

Memberships:

Association for Computing Machinery
IEEE & IEEE Computer Society, *Senior Member of IEEE in Fall 2003*

Honors:

- Faculty Fellow, The University of Alabama Leadership Academy, 2008-2009
  - Fellow for the Southeastern Conference Academic Consortium's Academic Leadership Development Program, 2008-2009
- College of Engineering's T. Morris Hackney Endowed Leadership Award, 2003
- Upsilon Pi Epsilon Outstanding Teaching Award, Department of Computer Science, 1997 and 2001
- Fulbright College of Arts & Sciences, University of Arkansas, Distinguished Alumni Award, 1998
- Fulbright College of Arts & Sciences, University of Arkansas, Alumni Academy, 1997

- Lily Teaching Scholar, University of Alabama, 1989-1990
- Honor Societies
    - Phi Beta Kappa
    - Phi Kappa Phi
    - Sigma Xi
    - Upsilon Pi Epsilon (Computer Science Honorary)

Research Grants:

Over $6 million in funding (not counting the NSF Engineering Education Foundation Coalition grants). This includes two statewide EPSCoR grants for Internet2, three FIPSE grants for classroom and laboratory development and enhancement, participation in a seven-school engineering education coalition program, a National Science Foundation Educational Innovations grant, three NSF Course and Curriculum Development grants, five DARPA grants for Ada and Ada Education, and five NSF Research Experiences for Undergraduates program grants that funded nine summer research programs.

1. Cordes, D., "*Undergraduate Instructional Laboratory Software Grant*," 1988, Intel Corporation, software grant, $500.

2. Cordes, D., *Lilly Endowment Teaching Scholar*, Lilly Endowment Teaching Scholars Program, 1989-1990, $5,000.

3. Cordes, D., *NASA Summer Faculty Fellow*, ASEE/NASA Summer Faculty Fellowship Program, Marshall Space Flight Center, Alabama, June 4 to August 10, 1990, $9,000.

4. Cordes, D., *Alabama Research Council Grant*, University of Alabama Research Grants Council, June 3 to August 9, 1991, $5,000.

5. Cordes, D. and Allen, R., *"The University of Alabama Undergraduate Computer Science Research Program,"* National Science Foundation, grant number #CDA-9100826, June 3 to August 9, 1991, $34,220.

6. Cordes, D., "*Software Development to Compute Motor Vehicle Accident Rates for User-Defined Roadway Subsets*," Alabama Highway Department, May 15, 1992 to May 15, 1993, $27,966.

7. Cordes, D., *"The University of Alabama Undergraduate Computer Science Research Program,"* National Science Foundation, grant number #CDA-9200367, September 1, 1992 to February 29, 1996, $55,303.

8. Cordes, D. and Parrish, A., "*An Incremental Approach to Software Engineering Using Ada*," Defense Advanced Research Projects Agency (DARPA), Arlington, Virginia, May 30, 1993 to November 30, 1994, $46,632.

9. Cordes, D. and Parrish, A., "*Addressing Software Development Skills in a Curriculum Focusing on the Science of Computing*," NSF Undergraduate Course and Curriculum Development, #DUE-9254116, May 1, 1993 to October 31, 1994, $40,241.

10. Parrish, A. and Cordes, D., "*Short Course: An Introduction to C++,*" Dynetics, August 16, 1993 to December 31, 1993, $3,780.

11. Cordes, D. and Parrish, A., *"The University of Alabama Undergraduate Computer Science Research Program,"* National Science Foundation, #CDA-9322010, February 1, 1994 to July 31, 1995, $45,153.

12. Parrish, A. and Cordes, D., "*An Incremental Approach to an Object-Oriented Software Engineering Course with Ada 9X*," Department of Defense (DISA), May 16, 1994 to May 15, 1995, $34,603.

13. Parrish, A. and Cordes, D., "*Tool Support for Incremental Unit Testing of Ada Software*," Department of Defense (DISA), May 16, 1994 to May 15, 1995, $41,530.

14. Parrish, A. and Cordes, D., "*Ada Curriculum Development Workshops*," Department of Defense (DISA), May 15, 1995 to August 15, 1995, $91,458.

15. Cordes, D. and Parrish, A., *"The University of Alabama Undergraduate Computer Science Research Program,"* National Science Foundation, amendment to grant number #CDA-9322010, February 1, 1995 to July 31, 1996, $45,195.

16. Cordes, D. and Parrish, A., *"The University of Alabama Undergraduate Computer Science Research Program,"* National Science Foundation, amendment to grant number #CDA-9322010, February 1, 1996 to July 31, 1997, $45,239.

17. Cordes, D., A. Parrish, B. Dixon, R. Borie, P. Gaughan, and D. Jackson, "*Integrated Introductory Curriculum for Computer Science and Engineering*," NSF Course and Curriculum Development, #DUE-9652785, May 1997 to May 1999, $134,728.

18. Cordes, D. and Parrish, A., *"The University of Alabama Undergraduate Computer Science Research Program,"* National Science Foundation, #CDA-9619680, February 1, 1997 to December 31, 1999, $135,600.

19. Lindly, J. and Cordes, D., "*Design Bureau Manuals on the Internet*," Alabama Department of Transportation, March 26th, 1998 to September 30th, 2000, $121,276.

20. Parrish, A., D. Cordes, B. Dixon, R. Borie, J. Jackson, S. Sharpe, J. Hale, and D. Hale, "*Integrating Software Architecture into an Interdisciplinary Software Engineering Curriculum*," NSF CISE Educational Innovations Program, #CDA-9712929, August 16, 1997 to August 15, 2000, $248,658.

21. J. McGregor, A. Parrish, and D. Cordes, "*Testing Computer Software – A Faculty Enhancement Workshop*," National Science Foundation, Undergraduate Faculty Enhancement Program, #DUE-9752710, May 1, 1998 to December 31, 1999, $70,004.

22. D. Cordes, P. Hancock, J. Watters, "*Infrastructure for the Development of Science and Technology*," National Science Foundation EPSCoR Program, #EPS-9720653, February 1, 1998 to January 31, 2001, $650,909.

23. K. Frair (PI), *Co-PI's* D. Cordes, D. Evans, J. Froyd, P. Gavankar, C. Malave, J. Mitchell, N. Pendergrass, T. Rhoads, J. Richardson, K. Watson, "*Foundation Engineering Education Coalition*," National Science Foundation Division of Engineering Education and Centers, October 1, 1998 to September 30, 2003, $14,960,462.

24. D. Cordes, "*Alabama Research Infrastructure Improvement Program: The Internet2 Initiative*," National Science Foundation EPSCoR Program, #EPS-0091853, February 1, 2001 to January 31, 2004, $2,249,254.

25. D. Cordes, "*Science Education Technology Initiative*," United States Department of Education, June 1, 2002 to December 31, 2003, $439,985.

26. D. Cordes, "*Foundation Coalition – Year 11*," National Science Foundation Division of Engineering Education and Centers, October 1, 2003 to September 30, 2004, $77,000.

27. D. Cordes, "*Science Education Technology Initiative*," United States Department of Education, June 1, 2003 to December 31, 2004, $50,000.

28. D. Cordes, M. Brown and R. Borie, "*Problem Solving in the Computing Curriculum*," University of Alabama Active/Cooperative Learning Grant, May 16, 2004 to May 15, 2005, $11,000.

29. D. Cordes, "*Science Education Technology Initiative*," United States Department of Education, June 1, 2004 to December 31, 2005, $198,000.

30. J. Jones (original PI), D. Cordes (assumed PI role in 2005), R. Smith and P. Bradford, *Collaborative Research: REU Site for Pervasive and Mobile Computing*, National Science Foundation Research Experience for Undergraduates Program, May 1, 2003 to April 30, 2007, $270,668.

31. M. Anderson, D. Cordes, S. Vrbsky and M. Brown, *Enhancing student motivation in the first-year computing curriculum*, National Science Foundation, Course Curriculum and Laboratory Improvement Program, April 15, 2008 to April 14, 2010, $148,116.

Publications:

Over 100 publications and presentations, including 25 refereed journal articles & book chapters.

Refereed Journal Articles and Book Chapters

1. Cordes, D. and D. Carver, "An Evaluation Methodology for User Requirements Documents," *Information and Software Technology*, Volume 31, Number 4, (May 1989), pp 181-188.

2. Brown, M. and D. Cordes, "Literate Programming Applied to Conventional Software Design," *Structured Programming*, Volume 11, Number 2, (1990), pp 85-98.

3. Carver, D., D. Cordes, and M. Gautier, "Object-Based Measurement in the Requirements Specification Phase," in *Empirical Foundations of Information and Software Science V*, edited by P. Zunde and D. Hocking, Plenum Press, New York, 1990.

4. Cordes, D. and M. Brown, "The Literate Programming Paradigm," *COMPUTER*, Volume 24, Number 6, (June 1991), pp. 52-62.

5. Cordes, D. and D. Carver, "An Object-Based Requirements Modeling Method,'' *Journal of the American Society for Information Science*, Volume 32, Number 1, (January 1992), pp 62-71.

6. Parrish, A., R. Borie, and D. Cordes, "Automatic Flowgraph-Based Testing of Object-Oriented Software Modules," *Journal of Systems and Software*, Volume 23, Number 11, (November 1993), pp 95-109.

7. Parrish, A. and D. Cordes, "Applying Conventional Unit Testing Techniques to Abstract Data Type Operations," *International Journal of Software Engineering and Knowledge Engineering*, Volume 4, Number 1 (1994), pp 103-122.

8. Cordes, D., A. Parrish, and S. Vrbsky, "Breadth-Oriented Outcomes Assessment in Computer Science," *Journal of Computer Science Education*, Volume 9, Number 3 (Spring 1995), pp. 12-15; also appeared in the *Proceedings of the 1994 National Educational Computing Conference (NECC '94)*, June 13-15, 1994, Boston, Massachusetts, pp. 293-305.

9. Parrish, A., D. Brown, and D. Cordes, "Experience in Teaching a Management-Oriented Capstone Software Engineering Course," in *Lecture Notes in Computer Science: Software Engineering Education*, edited by Rosalind L. Ibrahim, Springer Verlag, Heidelburg, Germany, 1995, pp. 279-294, also appears in the *Proceedings of the 8th SEI Conference on Software Engineering*, New Orleans, Louisiana, 1995.

10. Parrish, A., Cordes, D., Vrbsky, S., Camp, T., Scales, G., Fortner, C., "Assessing Computing Knowledge Among College Students," *Journal of Computer Science Education*, Volume 10, Number 3, (Spring

1996), pp. 9-14, also appeared in *Proceedings of the 1995 National Educational Computing Conference (NECC '95)*, Baltimore, MD.

11. Parrish, A., D. Cordes, R. Borie, and S. Edara, "Illustrating Client and Implementation Readability Tradeoffs in Ada and C++," *Software – Practice and Experience*, Volume 27, Number 7, (July 1996), pp 799-814.

12. Parrish, A., D. Cordes and D. Brown, "An Environment to Support Micro-Incremental Class Development,'' *Annals of Software Engineering*, Volume 2, (1996), pp. 213-236.

13. A. Parrish, R. Borie, and D. Cordes, "Automated Flow Graph-Based Testing of Object-Oriented Software Modules," chapter in *Testing Object-Oriented Software*, IEEE Computer Society Press, David C. Kung, Pei Hsia, and Jerry Gao (eds). The article previously appeared in the Journal of Systems Software, No. 23, 1993, pp. 95-109.

14. A. Parrish, B. Dixon, D. Cordes, J. Lusth, S. Vrbsky, "Implementing Persistent Data Structures Using C++," *Software – Practice and Experience*, December 1998, Volume 28(15), pp. 1569-1579.

15. D. Cordes, D. Evans, K. Frair, and J. Froyd, "The NSF Foundation Coalition: The First Five Years," *Journal of Engineering Education*, January 1999, pp. 1-5.

16. A. Parrish, D. Cordes, B. Dixon, and J. McGregor, "A Taxonomy of Module Interactions for Object-oriented Testing, " *International Journal of Computer Science and Information Science*, Volume 1, Number 1 (2000), pp. 11-19.

17. Parrish, A., B. Dixon and D. Cordes, "A Conceptual Foundation for Component-Based Software Deployment," *Journal of Systems and Software*, vol. 57, no. 3, August 2001, pp. 193-200.

18. Parrish, A., B. Dixon, D. Cordes, S. Vrbsky, and D.Brown, "CARE: A Tool to Analyze Automobile Crash Data," *IEEE COMPUTER,* Volume 36, Number 6 (June 2003), pp. 22-30.

19. Zhang, C. and D. Cordes, "Simulation of Resource Synchronization in a Dynamic Real-Time Distributed Computing Environment," *Concurrency and Computation: Practice and Experience*, Volume 16, Issue 14 (December 2004), pp. 1433-1451.

20. Li, J. and D. Cordes, "A Scalable Authorization Approach for the Globus Grid System," *Future Generation Computing Systems*, a special issue on Advanced Grid Technologies, Volume 21, Issue 2 (February 2005), pp. 291-301.

21. M. Davis, A. Parrish, B. Dixon, D. Cordes and R. Smith, "Improving Real-World Application Performance Utilizing Parallelized Commodity Components," *Software – Practice and Experience,* Volume 35, Issue 7 (June 2005), pp. 621-641.

22. Li, J., D. Cordes, and J. Zhang, "Power-Aware Routing Protocols in Ad Hoc Wireless Networks," *IEEE Wireless Communications,* Volume 12, Issue 6, (December 2005), pp. 69-81.

23. Zhang, C. and D. Cordes, "Resource Access Control for Dynamic Priority Distributed Real-Time Systems," *Real-Time Systems*, Volume 34, Number 2 (October 2006), pp. 101-127.

24. Smith, R., J. Azar and D. Cordes, "What to do next? Requirements Prioritization in a Small Development Organization," *IEEE Software*, Volume 24, Number 1 (January/February 2007), pp. 32-37.

25. Zheng, Q., X. Hong, J. Liu, W. Huang and D. Cordes, "Agenda Driven Mobility Modeling" to the *International Journal of Ad Hoc and Ubiquitous Computing (IJAHUC)*, Volume 5, Number 1 (January/February 2010), pp. 22-36.

Refereed Conference Publications

1. Cordes, D. and D. Carver, "A Formalized Methodology for the Development of Requirements Specifications from English Prose Documents," proceedings of the *1987 ACM South-Central Regional Conference*, November 19-21, 1987, pp. 68-77.

2. Cordes, D. and D. Carver, "Knowledge Base Applications with Software Engineering: A Tool for Requirements Specifications," proceedings of the *First International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems*, June 1-3, 1988, Tullahoma, Tennessee, pp. 267-272.

3. Cordes, D., "Improved Utilization of Requirements Document Information during System Specification," proceedings of *the 27th Annual Southeast Regional Conference*, April 5-7, 1989, Atlanta, Georgia, pp. 273-277.

4. Cordes, D. and D. Carver, "An Object-Oriented Framework to Support Architectural Design Development," proceedings of the *23rd Hawaii International Conference on System Science, Software Technology Track*, Jan. 3-5, 1990, Kailua-Kona, Hawaii, pp 349-357.

5. Brown, M. and D. Cordes, "The Role of Literate Programming in the Software Engineering Life-Cycle," proceedings of the *28th Annual Southeast Regional Conference*, April 18-20, 1990, Greenville, South Carolina, pp. 101-107.

6. Cordes, D., An Interaction Intensive Approach to Undergraduate Software Engineering Courses," proceedings of the *29th Southeast Regional ACM Conference*, April 10-12, 1991, Auburn, Alabama, pp. 33-37.

7. Allen, B. and D. Cordes, "Research Experiences in Computer Science for Small-College Students across the Southeast," proceedings of the *Fifth Annual Southeastern Small College Computing Conference*, November 1-2, 1991, Nashville, Tennessee, pp. 389-392.

8. Kortright, E. and D. Cordes, "Cnest and Cscope: tools for the literate programming environment," proceedings of *IEEE Southeastcon '92*, March 13-15, 1992, Birmingham, Alabama, pp. 604-609.

9. Cordes, D. and R. Allen, "Running an NSF REU Program: Observations, Comments and Suggestions," proceedings of the *ACM Southeast Region 30th Annual Conference*, April 8-10, 1992, Raleigh, North Carolina.

10. Parrish, A. and D. Cordes, "A Framework and Environment for Testing Ada Packages," proceedings of the *Fourth Annual NASA Ada User's Symposium*, April 7-8, 1992, Williamsburg, Virginia.

11. Cordes, D., Introducing Computer Science to Undergraduates," proceedings of the *National Educational Computing Conference (NECC '92)*, June 15-17, 1992, Dallas, Texas, pp. 280-283.

12. Cordes, D. and A. Parrish, "Ada as Part of an Incremental Approach to Software Engineering," proceedings of the *Seventh Annual Ada Software Engineering and Education Symposium*, January 12-14, 1993, Monterey, California, pp 139-146.

13. Cordes, D. and A. Parrish, "An Incremental Approach to Software Engineering in a Science-Based Computing Curriculum," proceedings of the *Association for Computing Machinery 1993 Computer Science Conference*, February 16-18, 1993, Indianapolis, Indiana, pp 182-187.

14. Parrish, A., D. Cordes and R. Borie, "Application and Implementation of Testing Criteria to Reusable Software Modules," proceedings of the *31st Annual ACM Southeast Conference*, April 14-16, 1993, Birmingham, Alabama, pp 383-386.

15. Parrish, A., D. Cordes and R. Borie, "Implementation-Based Testing for Abstract Data Types," proceedings of the *Sixth International Quality Week Conference*, May 25-28, 1993, San Francisco, California.

16. Cordes, D. and A. Parrish, "Incorporating Re-Use into a Software Engineering Course with Ada," proceedings of the *Tenth Washington Ada Symposium*. June 28-July 1, 1993, Washington, D.C., pp 109-114.

17. Parrish, A., H. Dyal, D. Cordes and R. Borie, "Testing Partially Completed Object-Oriented Software Modules," proceedings of the *15th Minnowbrook Workshop on Software Engineering*, Blue Mountain Lake, NY, July 13-16 1993, pp.157-158.

18. Parrish, A., D. Cordes, and R. Borie, "Developmental Testing of Abstract Data Types," proceedings of the *Seventeenth Annual International Computer Software and Applications Conference (COMPSAC '93)*, November 1-5, 1993, Phoenix, Arizona, pp. 49-55.

19. Parrish, A., D. Cordes, and M. Govindarajan, "Systematic Defect-Removal from Object-Oriented Software Modules," proceedings of the *1994 Software International Quality Week Conference*, May 12-15, 1994, San Francisco, California.

20. Parrish, A. and D. Cordes, "A Formal Methods-Based System for Testing C++ Classes," proceedings of the *16th Minnowbrook Workshop on Software Engineering*, Blue Mountain Lake, New York, July 1994, pp. 128-133.

21. Singh, G., A. Parrish, and D. Cordes, "An Education-Oriented Testing Environment for Ada Packages," proceedings of the *9th Annual ASEET Symposium*, Morgantown, West Virginia, June 6-9, 1995, pp. 86-93.

22. Parker, J., D. Cordes and J. Richardson, "Engineering Design in the Freshman Year at the University of Alabama," proceedings of the *1995 Frontiers in Education Conference*, Atlanta, Georgia, November 1-4, 1995.

23. Parker, J., D. Cordes, C. Laurie, A. Hopenwasser, J. Izatt, and D. Nikles, "Curriculum Integration in the Freshman Year at the University of Alabama: the Foundation Coalition Program," proceedings of the *1995 Frontiers in Education Conference*, Atlanta, Georgia, November 1-4, 1995.

24. Parker, J. and D. Cordes, "Teaming in Technical Courses," proceedings of the *1995 Frontiers in Education Conference*, Atlanta, Georgia, November 1-4, 1995.

25. Smith, R., D. Brown, D. Cordes, and A. Parrish, "Integrating Management Studies into a Capstone Software Engineering Course," proceedings of the *34th ACM Southeast Conference*, April 17-19, 1996, Tuskegee, Alabama, pp. 265-267.

26. Lester, C., A. Parrish, and D. Cordes, "Empirical Evaluation of Novice Object-Oriented Programmers," proceedings of the *34th ACM Southeast Conference*, April 17-19, 1996, Tuskegee, Alabama, pp. 302-304.

27. Parrish, A., D. Cordes, M. Feldman, C. Kann, and K. Price, "An Integrated Student Environment Supporting Ada Package Development," proceedings of the *10th Annual ASEET Symposium*, Prescott, Arizona, June 1996.

28. Cordes, D. and A. Parrish, "Active Learning in Technical Courses," proceedings of the *1996 National Educational Computing Conference (NECC '96)*, Minneapolis, Minnesota, June 1996.

29. Richardson, J., J. Parker, and D. Cordes, "The Foundation Coalition Freshman Year: Lessons Learned," proceedings of the *1996 Frontiers in Education Conference*, Salt Lake City, Utah, November 6-9, 1996.

30. Parrish, A., D. Cordes, C. Lester, D. Moore, "Active Learning and Process Assessment: Two Experiments in an Ada-Based Software Engineering Course," proceedings of *Tri-Ada 1996*, December, 1996, pp. 157-164.

31. Parrish, A., D. Cordes, C. Lester, and D. Moore, "Assessing Computer Usage Patterns in a Software Development Course," proceedings of the *1997 SIGCSE Conference*, San Jose, California, February 28-March 1, 1997, pp. 58-62.

32. Parrish, A., Cordes, D., Hale, D., Hale, J., and Sharpe, S., "Software Component Test Cases: The Need for a Conceptual Taxonomy," proceedings of the *Eighth Annual Workshop on Software Reuse (WISR-8)*, Columbus, Ohio, March 23rd-26th, 1997, pp. P1-6.

33. Moore, D., Parrish, A., and Cordes, D., "Analyzing Syntax Error Patterns Among Novice Programmers," proceedings of the *35th Annual ACM Southeast Conference*, Murfreesburo, Tennessee, April 2-4, 1997, pp. 188-190.

34. Frair, K., Cronan, M., Cordes, D., Froyd, J., Evans, D., "The NSF Foundation Coalition: Looking Toward the Future," proceedings of the *1997 Frontiers in Education Conference (FIE)*, CD-ROM, November 5-8, 1997, Pittsburgh, Pennsylvania.

35. Cordes, D., Parrish, A., Dixon, B., Borie, R., Jackson, D., and Gaughan, P., "An Integrated First-Year Curriculum for Computer Science and Computer Engineering," proceedings of the *1997 Frontiers in Education Conference (FIE)*, CD-ROM, November 5-8, 1997, Pittsburgh, Pennsylvania.

36. A. Parrish, R. Borie, D. Cordes, B. Dixon, D. Hale, J. Hale, D. Jackson, S. Sharpe, "Computer Engineering, Computer Science and Management Information Systems: Partners in a Unified Software Engineering Curriculum," proceedings of the *11th Conference on Software Engineering Education and Training*, IEEE Computer Society Press, pp. 67-75.

37. D. Cordes, A. Parrish, R. Borie, B. Dixon, D. Jackson, R. Pimmel, "Teaching an Integrated First-Year Computing Curriculum: Lessons Learned," *Proceedings of the 1998 ASEE Annual Conference*, Seattle, Washington, June 28-July 1, 1998.

38. K. Frair and D. Cordes, "Sharing Innovation: The NSF Foundation Coalition," *1998 Frontiers in Education Conference*, Tempe, Arizona, November 4-7, 1998.

39. D. Cordes, A. Parrish, B. Dixon, R. Borie, D. Jackson, D. Hale, J. Hale, S. Sharpe, "An Inter-Disciplinary Software Engineering Track Emphasizing Component Engineering," *1998 Frontiers in Education Conference*, Tempe, Arizona, November 4-7, 1998, pp 811-813.

40. D. Jackson, B. Dixon, D. Cordes, A. Parrish, R. Borie, R. Pimmel, "An Integrated First-Year Computing Curriculum: Combining C++ and Assembly Language Programming," *Proceedings of the ISCA 11th International Conference on Computer Applications in Industry and Engineering*, Las Vegas, Nevada, November 11-13, 1998, pp 286-289.

41. D. Jackson, A. Parrish, R. Borie, D. Cordes, B. Dixon, D. Hale, J. Hale, S. Sharpe, "Component Engineering in a Multidisciplinary Curriculum," *Proceedings of the ISCA 11th Internal Conference on Computer Applications in Industry and Engineering*, Las Vegas, Nevada, November 11-13, 1998, pp 294-296.

42. A. Parrish, B. Dixon, D. Cordes, R. Borie, D. Jackson, R. Pimmel, "Experiences in Computing Curriculum Integration," proceedings of the *1999 Frontiers in Education Conference (FIE)*, CD-ROM, November 8th-11th, 1999, San Juan, Puerto Rico.

43. D. J. Jackson, R. Pimmel, A. Parrish, B. Dixon, D. Cordes, and R. Borie, "Logic Design Programming Assignments in a First-Year Course," *Proceedings of the ISCA 15th Internal Conference on Computers and Their Applications*, New Orleans, LA, pp. 412-414, Mar. 29-31, 2000.

44. A. Parrish, B. Dixon, D. Cordes and J. McGregor, "Class Development and Testing in the Small," invited paper in the *2000 ACM Southeast Conference*, April 14-16, 2000, Clemson, South Carolina, pp. 139-145.

45. C. Zhang and D. Cordes, "A Resource Synchronization Protocol for Dynamic Scheduling Real-Time CORBA," IEEE SoutheastCon 2002, April 5-7, 2002, Columbia, South Carolina.

46. D. Cordes and A. Parrish, "Active Learning in Computer Science: Impacting Student Behavior," *Proceedings of Frontiers in Education 2002 Conference (FIE 2002),* November 6th-8th, 2002, Boston, MA.

47. W. Huang and D. Cordes, "Resolving the Uncertainty of Trust between Mobile Agents: A Fuzzy Model," *Proceedings of ACMSE 2003: 41st ACM Southeast Regional Conference*, March 7-8, 2003, Savannah, GA.

48. J. Li and D. Cordes, "Authorization in Grid System Environments," *Proceedings of ACMSE 2003: 41st ACM Southeast Regional Conference*, March 7-8, 2003, Savannah, Georgia.

49. W. Huang, H. Chen and D. Cordes, "Sensitivity Analysis of Knowledge Discovery for Fatal Car Accidents," *Proceedings of ANNIE 2003* (Artificial Neural Networks in Engineering), November 2-5, 2003, St. Louis, Missouri.

50. J. Li and D. Cordes, "An Integrated Authorization Service for Grid System Environments," *Proceedings of the 2004 Hawaii International Conference on Computer Science*, January 16-18, 2004, Honolulu, Hawaii.

51. Li, J. and D. Cordes, "Hybrid Greedy/Multicasting Power-aware Routing Protocol in Ad-hoc Networks," 2004 International Conference on Information Technology (ITCC 2004), April 5-7, 2004, Las Vegas, Nevada.

52. Huang, W. and D. Cordes, "Knowledge-Contribution Motivated Adaptive Neighborhood for Multi-Agent Communities, 42nd Annual ACM Southeast Conference, April 2-3, 2004, Huntsville, Alabama.

53. Huang, W., Chen, H., and D. Cordes, "Discovering Causes for Fatal Car Accidents: A Distance-based Data Mining Approach, ANNIE 2004 (Artificial Neural Networks in Engineering), November 7-10, 2004.

54. Mitchell, M., Hudnall, M., Brown, D., Cordes, D., Smith, R., and A. Parrish, "A Host Architecture for Automobile License Plate Recognition," Intelligence and Security Informatics 2007 (ISI 2007), May 23-24, 2007, New Brunswick, New Jersey.

55. Anderson, M., Todd, B., Burkett, S., Warren, G., Brown, M. and D. Cordes, "Engineering Collaborations with Liberal Arts," Proceedings of the ASEE Annual Conference and Exposition, June 14-17, 2009, Austin, Texas.

56. Todd, B., Warren, G., Burkett, S., Brown, M. and D. Cordes, "Current-event Articles for Engineering Students," Proceedings of the ASEE Annual Conference and Exposition, June 14-17, 2009, Austin, Texas.

Other Conference Presentations

1. Cordes, D., and Carver, D., "Generating a Requirements Specification Knowledge Base," presentation at the *1988 ACM Computer Science Conference*, February 23-25, 1988, Atlanta, Georgia.

2. Carver, D.; Cordes, D; Gautier, N., "Object-Based Measurement in the Requirements Specifications Phase," presentation at the *Sixth Symposium on Empirical Foundations of Information and Software Science*, Atlanta, Georgia, October 19-21, 1988.

3. Brown, M. and Cordes, D., "Literate Programming in the Computer Science Curriculum," *ACM Mid-Southeast Chapter Fall Conference*, November 9-10, 1989, Gatlinberg, Tennessee.

4. Brown, M. and Cordes, D., "A Literate Programming Design Language," presentation at *CompEuro90, IEEE International Conference on Computer Systems and Software Engineering*, May 1990, Tel Aviv, Israel.

5. Cordes, D., "Formal Specification Methodologies and the Software Engineering Student," presentation at the *ACM Mid-Southeast Chapter Fall Conference*, November 15-16, 1990, Gatlinberg, Tennessee.

6. Cordes, D. "Utilizing Initial Requirements Documents within System Modeling," presentation at the *Sixty-Eighth Annual Meeting of the Alabama Academy of Science*, March 6-9, 1991, Jacksonville, Alabama.

7. Cordes, D. "Object Based System Modeling," presentation at the *Sixty-Nineth Annual Meeting of the Alabama Academy of Science*, April 15-18, 1992, Tuscaloosa, Alabama.

8. Nikles, D., D. Cordes, A. Hopenwasser, J. Izatt, C. Laurie, and J. Parker, "A General Chemistry Course Sequence for an Integrated Freshman Year Engineering Curriculum," presentation at the *Gordon Research Conference*, Ventura, California, January 8-13, 1995.

9. Parrish, A., D. Cordes and B. Malloy, "Ada in the Undergraduate Curriculum," panel session at the *33rd Annual ACM Southeast Conference*, Clemson, South Carolina, March, 1995.

10. Izatt, J, D., Cordes, A. Hopenwasser, C. Laurie, and J. Parker, "An Integrated Freshman Year Engineering Course," presentation at the *American Association of Physics Teachers Summer Meeting*, Gonzaga University, Spokane, Washington, August, 7-12, 1995.

11. Parrish, A., D. Cordes, and G. Singh, "Toward a Pedagogy and Process for Object-Oriented Software Integration," poster session at the *27th Annual Symposium on Computer Science Education*, Philadelphia, Pennsylvania, February 1996.

12. Wills, C., D. Cordes, D. Deremer, B. Klein, R. McCauley, and L. Null, "Application of Peer Learning to the Introductory Computer Science Curriculum," panel at the *1997 SIGCSE Technical Symposium*, San Jose, California, February 27-March 1, 1997.

13. Brown, D., D. Cordes, and A. Parrish, "Empowerment Paradigms in Education/Training," half-day workshop at the *10th Conference on Software Engineering Education and Training*, April, 1997.

14. D. Cordes and A. Parrish, "Teaching C++ Programming to High School Students," invited session at the *1998 National Educational Computing Conference (NECC '98)*, June 22-24, 1998, San Diego, California.

15. D. Cordes and A. Parrish, "Assessing the Computer Literacy Needs of K-12 Teachers," invited session at the *1998 National Educational Computing Conference (NECC '98)*, June 22-24, 1998, San Diego, California.

16. A. Parrish, A. Gates, D. Cordes, "Introduction to Java Programming," invited session at NECC '99, June 22-24, 1999, Atlantic City, New Jersey.

17. D. Cordes, A. Parrish, R. Borie, B. Dixon, D. Jackson, R. Pimmel, "An Integrated First-Year Computing Curriculum," invited poster presentation at the *1998 ACM SIGCSE Conference*, Atlanta, Georgia, February 26-28, 1998.

18. *Status of the Gulf-Central-GigaPoP and Networking at EPSCoR Institutions*, Alabama State EPSCoR Conference, February 29th, 2000, Montgomery, Alabama.

19. D. Cordes and J. Gemmill, *NSF EPSCoR: The Internet2 Project in Alabama,* January 18th-19th, 2001, Tuskegee, Alabama.

20. D. Cordes, C. Branch and C. Lawson, *NSF EPSCoR: The Internet2 Project, a Status Report,* Alabama State EPSCoR Conference, January 30th, 2002, Mobile, Alabama.

21. D. Cordes*, The Alabama Internet2 Project*, Alabama State EPSCoR Annual Meeting, March 13th, 2003, Montgomery, Alabama.

22. D. Cordes, *Alabama's Internet2 Initiative*, Alabama State EPSCoR Annual Meeting, May 18th, 2004, Huntsville, Alabama.

23. D. Cordes, *Mentors in the Freshman Engineering Program*, Symposium on Reform in Undergraduate Science, January 18, 2008, University of Alabama, Tuscaloosa, Alabama.

24. G. Yaverbaum, J. Leone, R. Greenlaw, B. Price and D. Cordes, *Alternative Delivery and Multiple Campuses: How to Prepare*, ABET Assessment Symposium, April 15-17, 2010, Las Vegas, Nevada.

Invited Talks and Workshops:

1. D. Cordes, invited talk on "Incremental Development and Testing of Software Modules," the University of Arkansas, Fayetteville, Arkansas, March 30, 1995.

2. D. Cordes and A. Parrish, invited talk on "Object Oriented Software Development," Bell South, Birmingham, Alabama, May 10, 1995.

3. D. Cordes, J.W. Harrell, C. Laurie, and D. Nikles, "The Foundation Coalition: An Experiment in Education Reform," University of Alabama Faculty and GTA Development Colloquium, March 6, 1996.

4. D. Cordes, invited talk on "Object-Oriented Software Testing," Louisiana State University Computer Science Twenty-Fifth Anniversary Symposium, April 17, 1997.

5. D. Cordes, invited talk on "The Year 2000 Problem," Decatur Kiwanis Club, Decatur, Alabama, July 30th, 1998.

6. D. Cordes, invited talk on "The University of Alabama Internet2 Research Project," Graduate Student Research Conference, University of Alabama, April 18th, 2000

7. D. Cordes, invited talk on Report on the EPSCoR Internet2 Project, Alabama State EPSCoR Steering Committee, February 28th, 2000, Montgomery, Alabama.

8. D. Cordes and J. Froyd, invited workshop on "Engineering Classrooms: Before and After Innovation," Tennessee Tech University, November 15th, 2001.

9. D. Cordes and J. Froyd, invited workshop on "Engineering Classrooms: Before and After Innovation," *Share the Future III Conference*, Gainesville, Florida, March 3rd-5th, 2002.

10. D. Cordes, invited workshop on "Technology in the Large Classroom," *Share the Future IV Conference*, Tempe, Arizona, March 16th-18th, 2003.

11. D. Cordes, invited workshop on "Academic Misconduct in Higher Education Today," *Share the Future IV Conference*, Tempe, Arizona, March 16th-18th, 2003.

12. A. Parrish, P. Bradford and D. Cordes, "Wireless Research and Security," invited seminar at the University of Alabama at Birmingham. June 6th, 2003.

13. D. Cordes, "Active and Collaborative Learning in the Introductory Computer Science Curriculum," invited talk at the University of Alabama Teaching Colloquium, November 9th, 2003.

14. D. Cordes, "The Future of Computing," Tuscaloosa Rotary Club, January 29th, 2004.

15. D. Cordes, "Computing at the University of Alabama," Alabama Chapter of the Society for Information Management (SIM), November 15, 2006.

16. D. Cordes, "Examples of Active and Collaborative Learning Activities at UA," panelist, Active and Collaborative Learning Conference, University of Alabama, Tuscaloosa, Alabama, February 29, 2008.

***Teaching and Student Supervision*:**

Courses Taught:
CS 102: Microcomputer Applications
CS 114: Introduction to Computer Programming
CS 114H: Introduction to Computer Programming (Honors)
CS 124: Introduction to Computer Science
CS 325: Object-Oriented Software Development and Systems
CS 412: C and UNIX for Engineers
CS 415: Software Engineering
CS 425: Systems Programming
CS 426: Operating Systems
CS 438: Computer Networks
CS 524: Object-Oriented Software Development with Java
CS 613: Computer Communications and Networks
CS 631: Software Development, Practice and Experience
CBH 101: Computer Based Honors I
CBH 102: Computer Based Honors II

Teaching Evaluations
- Department's Outstanding Teaching Award, 1997, 2001
- Average undergraduate course teacher evaluation score of 4.86 out of 5.0
- Average graduate course teacher evaluation score of 4.70 out of 5.0

Dissertations Supervised
- Chen Zhang, doctoral dissertation, *Resource Synchronization for Dynamic Scheduling in Real-Time CORBA*, August 2002.
- Jiageng Li, doctoral dissertation, *Authorization Service for Grid System Computing*, May 2004.
- Wan Huang, doctoral dissertation, *Intelligent Trust Evaluation and Self-Organizing Multi-Agent Community*, August 2004.

Service:

Departmental Committees
- UPE Advisor, Spring 1989 to Fall '93, (founded local chapter in 1989)
- Graduate Committee, member from Fall '88 to Spring '93
- Equipment Committee, chair from Fall '89 to Spring '99
- ACM Advisor, Fall 1990 to Spring 1993
- Instructor Search Committee, member from Spring '92 to Spring '97
- CSAB Accreditation, member since Fall '89, chair from Fall '94 to Fall '99
- Undergraduate Committee, member since Fall '88, chair from Fall '93 to Fall '97

College Committees:
- Fall '88 to Spring 1998, Computer Facilities and Software
- Fall '89 to Fall '91, Faculty Advisory Council
- Spring '93, Long Range Planning Committee
- Fall '96 to Spring '97, Chair, College Web Committee
- College Scholarship Committee, 1999-2000
- Distance Learning Committee, 1999-2000
- Fall 1997 to present: Dean's Advisory Council
- Fall 2005 to present: T. Morris Hackney Selection Committee
- *Ad hoc committees*
  RT Advisory Committee '88
  NSF Engineering Education Consortium Committee '92-'93
  MIB Renovation/Electronic Classroom Committee '92-'93
  CoE Network Manager Search Committee '94, '91
  Chair, Electronics Shop Chief Technician Search Committee, '94
  CoE ABET 2000 Task Force
  Electrical and Computer Engineering Larry Drummond Endowed Chair of Computer Engineering
       Search Committee, 2000-2001
  Electrical and Computer Engineering Larry Drummond Endowed Chair of Computer Engineering
       Search Committee, 2002-2003
  Chair, College Director of Information Technology Search Committee, 2002-2003
  Electrical & Computer Engineering Department Head Search Committee, 2003-2004
  Laptop Adoption Evaluation Committee, 2003-2004
  T. Morris Hackey Endowed Leadership Award Selection Committee, Spring 2004
  Electrical and Computer Engineering Department Head Search Committee, 2005
  Freshman Program Review Committee, Spring 2006
  MTE Department Head Review Committee, Spring 2006
  Laboratory Fee Evaluation Committee, Spring 2007

University Committees
- Fall '89 to Spring '91, University Recreation Committee
- Fall '89 to Spring '93, University Student Awards Committee
- Spring '90, Burlington Northern Award Selection Committee
- Fall '92 to Spring '94, University Curriculum Advisory Committee
- Spring '92 to Fall '94, Faculty Senate alternate
- Fall '96 to Spring 1998, University Teaching and Learning Committee

- Fall '02 to Spring '04, University Graduate Council
- Fall 2004 to Spring '07, Information Technology Committee
- Fall 2006 to Spring 2009, Intercollegiate Athletics Committee
- Fall 2005 to present: Core Curriculum Oversight Committee

External Service
- NSF Panel Reviewer (various programs since 2003)
- Reviewer, COMPUTER
- Reviewer, Computer Science Education journal
- Reviewer, numerous IEEE and ACM conferences
- Co-Chair, Hawaii International Conference on System Sciences (HICSS-33) Mini-track on Software Component Engineering, 1993
- Member, Task Force on Excellence in Undergraduate Education, IEEE Computer Society, 1994 to 1996
- Vice Chair, IEEE Computer Society Educational Activities Board, 1994
- IEEE Computer Society Educational Activities Board, Spring 1994 to Spring 1999
- Program Co-Chair, Frontiers in Education 2009 (FIE 2009), October 18-21, 2009, San Antonio, Texas.

Accreditation Activities
- Computer Science Accreditation Board (CSAB) Program Evaluator, 1997 to 2000
- ABET, Computing Accreditation Commission (CAC), Program Evaluator, 2000 to 2006
- ABET, Computing Accreditation Commission (CAC), Commissioner, 2006 to present
- ABET, Computing Accreditation Commission (CAC), Executive Committee Member & Commissioner, 2009 to present
    Will assume duties as Chair of the CAC Commission within ABET for the 2013-2014 term

Foundation Coalition Activities:
From 1994 until 2003 the University of Alabama was part of a seven-institution NSF-sponsored coalition, the Foundation Coalition, focusing on engineering education reform. Reform focuses around four thrusts: curriculum integration, human-interface development, technology-enabled education, and continuous assessment and evaluation. Service to the coalition effort includes activities at both the National and Local levels. At the national level, I served on the National Management Team from the Fall of 1995 until the Fall of 2000 as the National Strategy Director for Sharing, Outreach and Dissemination activities associated with the coalition. At the local level, I served on the local management team and have assisted in teaching the first-year FC curriculum.