

# Steve Goddard

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## Education

- 1998 Ph.D., Computer Science, University of North Carolina, Chapel Hill, NC
- 1995 M.S., Computer Science, University of North Carolina, Chapel Hill, NC
- 1985 B.A., Computer Science and Mathematics, University of Minnesota, Duluth, MN

## Professional Experience

- 2019 – Dean, College of Liberal Arts & Sciences, University of Iowa
- 2019 – Professor, Computer Science, University of Iowa
- 2019 – Emeritus Professor, Computer Science and Engineering, University of Nebraska–Lincoln
- 2018 – 2019 Senior Associate to the Executive Vice Chancellor and Chief Academic Officer, University of Nebraska–Lincoln
- 2018 – 2019 Department Chair, Computer Science and Engineering, University of Nebraska–Lincoln
- 2016 – 2018 Vice Chancellor for Research & Economic Development (Interim), University of Nebraska–Lincoln
- 2014 – 2016 Associate Vice Chancellor for Research, Office of Research, University of Nebraska–Lincoln
- 2013 – 2014 Dean (Interim), College of Arts & Science, University of Nebraska–Lincoln
- 2008 – 2013 Department Chair, Computer Science and Engineering, University of Nebraska–Lincoln
- 2008 – 2019 Professor, Computer Science and Engineering, University of Nebraska–Lincoln
- 2004 – 2008 Associate Professor, Computer Science and Engineering, University of Nebraska–Lincoln
- 1998 – 2004 Assistant Professor, Computer Science and Engineering, University of Nebraska–Lincoln
- 1999 – Computer Systems and Patent Litigation Consultant, S.M. Goddard (sole proprietorship)  
Specialize in embedded and networked systems.
- 1989 – 1998 President and Real-Time Distributed Systems Consultant, S.M. Goddard & Co., Inc.
- 1985 – 1989 Scientific Programmer, Unisys Corporation

## Chairs and Professorships

- 2019 – *UI Alumni Association Dean's Chair in the Liberal Arts and Sciences*
- 2011 – 2019 *John E. Olsson Professorship*
- 2008 – 2010 *College of Engineering Professorship*
- 2006 – 2008 *College of Engineering Distinguished Scholar*
- 2000 – 2005 *J.D. Edwards Professorship*

## Awards and Fellowships

- 2014 *Robert B. Daugherty Water for Food Institute Fellow*
- 2013 – 2014 *Committee on Institutional Cooperation (CIC) Academic Leadership Program (ALP) Fellow*
- 2007 *Certificate of Recognition for Contributions to Students*, awarded by the UNL Parents Association (PA) and Teaching Council (TC)
- 2005 *Certificate of Recognition for Contributions to Students*, awarded by the UNL PA and TC
- 2004 *College Faculty Research and Creative Activity Award*
- 2004 *Computer Science & Engineering Student Choice Outstanding Teaching Award*, Graduate Courses
- 2003 *Faculty Recognition Award*, from Beta Theta Pi as an “outstanding educator at UNL”
- 2003 – 2004 *College of Engineering and Technology Faculty Fellow Award*

- 2001 *College Distinguished Teaching Award*
- 2000 *College of Engineering & Technology Faculty Teaching Award* at the Assistant Professor level
- 2000 *Certificate of Recognition for Contributions to Students*, awarded by the UNL PA and TC
- 1999 *Certificate of Recognition for Contributions to Students*, awarded by the UNL PA and TC
- 1997 – 1998 University of North Carolina at Chapel Hill Computer Science Alumni Fellowship

**Selected Recent International Research Leadership Positions**

- 2013 – 2016 Chair, IEEE Technical Committee on Real-Time Systems,
- 2011 – 2012 Vice-Chair, IEEE Technical Committee on Real-Time Systems,
- 2007 – 2018 Member, Executive Committee of IEEE Technical Committee on Real-Time Systems
- 2012 – 2016 Member, Steering Committee for IEEE International Conference on Embedded and Real-Time Computing Systems and Applications
- 2015 Chair, Technical Program Committee for the 27th Euromicro Conference on Real-Time Systems, Lund, Sweden
- 2012 Co-chair, Technical Program Committee, Real-time Systems Track for 2012 International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA) 2012, Seoul, Korea
- 2011 Member, Steering Committee for the First International Workshop on Cyber-Physical Networking Systems (CPNS 2011), Shanghai, China
- 2011 Member, Steering Committee for CPSWeek 2011, Chicago, Illinois
- 2010 Organizer and Intellectual Leader of Hybrid, Embedded, and Real-Time Systems Group of NSF funded workshop entitled, Future Directions of Computer System Research in 2010
- 2009 General Chair for the 30th IEEE Real-Time Systems Symposium, Washington, D.C.
- 2008 Chair, Technical Program Committee for the for the 29th IEEE Real-Time Systems Symposium, Barcelona, Spain
- 2008 Co-Chair, Technical Program Committee for the Real-time and Dependable Systems – Principles and Practice topic of the Embedded Software Track of Design, Automation and Test in Europe Conference (DATE 08), Munich, Germany
- 2007 General Co-Chair for the 13th IEEE Real-Time and Embedded Technology and Applications Symposium, Bellevue, Washington
- 2006 Co-Chair, Technical Program Committee for the 12th IEEE Real-Time and Embedded Technology and Applications Symposium, San Jose, California

**Selected Recent University Service Leadership and Board Positions**

- 2016 – 2017 Co-Chair, UNL Task Force on Achieving Distinction.
- 2016 – 2018 Member, Board of Directors, NUtech Ventures.
- 2016 – 2018 Member, Board of Directors, Nebraska Innovation Campus Development Corporation.
- 2016 – 2018 Member, Board of Directors, National Strategic Research Institute.
- 2016 – 2018 Member, Nebraska Manufacturing Extension Partnership (MEP) Advisory Board.
- 2016 – 2018 Member, Nebraska’s Experimental Program to Stimulate Competitive Research (EPSCoR) Committee.
- 2014 – 2016 Chair, UNL Criterion Working Group Two (Integrity: Ethical & Responsible Conduct) for the 2016-17 Higher Learning Commission (HLC) Reaffirmation of Accreditation Comprehensive Evaluation.
- 2012 – 2013 Chair, UNL Massive Open On-line Course (MOOC) Task force.
- 2012 – 2013 Chair, Chemical Engineering Department Chair Search Committee.
- 2010 – 2012 Chair, Nebraska University-wide Committee to select recipients of the University of Nebraska Innovation, Development, and Engagement Award.

## Grants and Contracts (More than \$22M in total external funding, \$10M as PI)

1. "Systematic Approaches for Real-Time Stream Data Services," NSF CSR-1117664, 09/01/11 - 08/31/15, \$250,000, PI: S. Goddard.
2. "Supporting Surgical Options in Space," NASA, 09/30/2010-08/31/2015, \$2,700,000 (in collaboration with UNMC); Co-PI: S. Goddard for UNL award (PI: D. Oleynikov for UNMC award and PI: S. Farritor for UNL award; Co-PIs: L. Perez, C. Nelson).
3. "CSR-CPS: Ph.D. Student Forum on Cyber-Physical Systems," NSF CSR/CPS-1000028, 10/15/2009-10/14/2010, \$15,000; PI: S. Goddard
4. "Robotic Telesurgery," UNMC/US Army Medical Research and Materials Command US Army Research Medical Acquisition Activity, 09/29/2009-10/28/2012, \$2,969,999 (in collaboration with UNMC); Co-PI: S. Goddard for UNL award (PI: D. Oleynikov for UNMC award and PI: S. Farritor for UNL award; Co-PIs: L. Perez, C. Nelson).
5. "Robots for Telesurgery Research," UNMC/US Army Medical Research and Materials Command US Army Research Medical Acquisition Activity, 01/01/2008-09/09/2010, \$1,914,000 (in collaboration with UNMC); Co-PI: S. Goddard for UNL award (PI: D. Oleynikov for UNMC award and PI: S. Farritor for UNL award; Co-PI: L. Perez).
6. "CRI: IAD: Collaborative Research: Planning for a Life-Size Experimental Facility for Applied Sensor Networks Research," NSF CRI-0707975, 9/01/07-8/31/10, \$200,000; UNL PI: S. Goddard (UNL Co-PIs: H. Sharif, L. Perez, S. Ci, D. Peng). Collaborative project with University of Illinois Urbana-Champaign (UIUC PI: T. Abdelzaher) as lead institution and Washington University (Wash U PI: C. Lu).
7. "CSR-EHS Predictable Adaptive Residual Monitoring for Real-time Embedded Systems," NSF EHS/CPS-0720654, 8/01/07-8/31/11, \$500,000; Co-PI: S. Goddard (PI: M. Dwyer; Co-PI: S. Elbaum).
8. "Adaptive Real-Time Scheduling for Grid Computing," NSF CSR-720810, 9/01/07-8/31/09, \$125,000; Co-PI: S. Goddard (PI: Y. Lu; Co-PI: J. Deogun).
9. "GAANN in Engineering & Assistive Technology," Department of Education P200A070344, 8/15/7-8/4/12, \$387,165; Co-PI S. Goddard (PI: L. Perez).
10. "Self-configuration and Localization in Ad Hoc Wireless Sensor Networks," Air Force Office of Scientific Research DEPSCoR, 6/1/06-5/31/10, \$548,807 from sponsor. Co-PI: S. Goddard (PI: L. Perez).
11. "Drought Risk, Impact, and Mitigation Information System," USDA FCIC/RMA 2IE08310228, 10/01/05-9/30/10, \$6,407,473. PI: S. Goddard (Co-PI: D. Wilhite).
12. "Climate and Soil Risk Information System," USDA FCIC/RMA 2IE08310228, 6/01/05-5/31/08, \$1,212,055. PI: S. Goddard (Co-PIs: K. Hubbard, D. Wilhite).
13. "Enhancement of the U.S. Drought Monitor by Integrating NASA Earth Science Data, NASA, 8/1/2005-7/31/2008, \$864,046. Co-PI: S. Goddard (PI: J. Verdin; Co-PIs: J. Brown, D. Willhite, M. Hayes, M. Svoboda).

14. "Collaborative Research: Program Analysis Techniques to Support Dependable RTSJ Applications," NSF CCF-0429149, 9/15/2004–9/14/2007, \$320,000. Co-PI: S. Goddard (PI: M. Dwyer; Co-PIs: S. Elbaum, G. Rothermel).
15. "Energy-Aware CPU and I/O Scheduling for Embedded Real-Time Systems," NSF CNS-0409382, 9/1/2004–8/31/2006, \$200,000. PI: S. Goddard.
16. "Increasing Participation in Computer Science, Engineering and Mathematics through Scholarships," NSF Award CSEMS-0422507, 9/1/04–8/31/08, \$400,000. Co-PI: S. Goddard (PI: G. Woodward; Co-PIs: K. Lee, B. Ramamurthy, J. Ballard).
17. "Risk Assessment and Exposure Analysis on the Agricultural Landscape," USDA FCIC/RMA 2IE08310228, 10/1/02–5/31/05, \$1,326,623. PI: S. Goddard (Co-PIs: J. Deogun, M. Hayes, K. Hubbard, D. Jose, S. Reichenbach, M. Svoboda, W. Waltman, D. Wilhite).
18. "Collaborative Research: Rate-Based Resource Allocation Methods for Real-Time Embedded Systems," NSF EHS-0208619, 9/1/02–8/31/05, \$120,000. PI: S. Goddard.
19. "Improving Aviation Safety through Real-Time Spatio-Temporal Resource Allocation," NASA Nebraska Space Grant & EPSCoR, 11/1/01-10/31/02, \$13,193. PI: S. Goddard.
20. "DIGITAL GOVERNMENT: A Geospatial Decision Support System for Drought Risk Management," NSF EIA-0091530, 7/1/01–1/30/05, \$1,007,914. PI: S. Goddard (Co-PIs: J. Deogun, M. Hayes, K. Hubbard, S. Reichenbach, P. Revesz, W. Waltman, D. Wilhite).
21. "Increasing Participation in Computer Science, Engineering and Mathematics through Scholarships," NSF Award CSEMS-0094903, 8/1/01-7/31/05, \$270,000. Co-PI: S. Goddard (PI: Gordon Woodward; Co-PI: Byravamurthy Ramamurthy).
22. "Next Generation Enterprise Resource Planning Systems," NSF EPSCoR, 5/1/01-4/30/04, \$2,575,680 (\$1,214,937 from NSF, \$1,350,368 from UNL matching funds). Co-Investigator: S. Goddard (PI: S. Henninger; Co-PI: F. Choobineh; Many other Co-Investigators).
23. "Intelligent Server Farm Management," Flextel S.p.A., 10/1/00–8/31/01. \$144,316. PI: S. Goddard.
24. "Assured Quality of Service Resource Allocation Models," University of Nebraska-Lincoln Center for Communication and Information Science, 5/1/01–6/31/01, \$7,380. PI: S. Goddard.
25. "Schedulability Analysis with UML-RT Models," University of Nebraska-Lincoln Center for Communication and Information Science, 5/1/00–6/31/00, \$3,000. PI: S. Goddard.
26. "Managing Latency in the Synthesis of Real-Time Signal Processing Systems from Processing Graphs," General Dynamics, September 1997-July 1998. \$85,000. PI: S. Goddard.
27. "System Requirements Specifications and Design of the AN/UYS-2A COTS Variant Operating System," Lucent Technologies, May 1996-August 1997. \$120,000. PI: S. Goddard.
28. "A Software Architecture for a Fault Tolerant Distributed Signal Processing System," Bell Labs, April 1994-April 1996. \$280,000. PI: S. Goddard.
29. "Design and Implementation of Distributed Real-Time Systems," AT&T, October 1989-March 1994. \$720,000. PI: S. Goddard.

## Patents

1. "Fault-Tolerant Firewall Sandwiches," Steve Goddard, U.S. Patent No. 7,254,834, filed October 18, 2002, U.S. Patent Publication No. 20030131262; published July 10, 2003; patent awarded August 7, 2007. Flextel S.p.A., of Italy, licensed this technology for integration into their secureVision 3000 and webVision 4000 products.
2. PCT Application (International Patent Application under the Patent Cooperation Treaty) for "Fault-Tolerant Firewall Sandwiches," Steve Goddard, (Attorney Docket No. 2186-000007/WO/POA), filed October 18, 2002, abandoned by UNL, 2006.
3. "Hierarchical Dispatching," Steve Goddard, Provisional application No. US 60/523858, filed November 20, 2003; U.S. Patent Application Serial No. 10/989243, filed November 15, 2004; U.S. Patent Publication No. US 2005/0193146 A1 published September 1, 2005; abandoned by UNL, 2009.
4. "Hierarchical Firewall Load Balancing and L4/L7 Dispatching," Steve Goddard, Provisional Patent Application No. US 60/523858, filed November 20, 2003; Application No. US 10/989242 filed November 15, 2004; Publication No. US 2005/0183140 A1 published August 18, 2005; abandoned by UNL, 2008 Flextel S.p.A., of Italy, licensed this technology for integration into their secureVision 3000 and webVision 4000 products.
5. "Combined Firewall Load Balancing and Cluster-Based Server," Steve Goddard, Provisional application No. US 60/523858, filed November 20, 2003, U.S. Patent Application Serial No. 10/989241, filed November 15, 2004; Publication No. US 2005/0183139 A1 published August 18, 2005; abandoned by UNL, 2009.
6. "Assured Quality-of-Service Request Scheduling," Steve Goddard, U.S. Patent Application Serial No. 10/008024, filed November 5, 2001; U.S. Patent Publication No. 20020083117, published June 27, 2002; International Application No. PCT/US01/46854, filed November 5, 2001, International Publication No. WO 02/39696 A2, published May 16, 2002; abandoned by UNL, 2007. Flextel S.p.A., of Italy, licensed this technology for integration into their secureVision 3000 and webVision 4000 products.
7. "Computer Server Having Non-Client-Specific Persistent Connections," Steve Goddard, U.S. Patent Application Serial No. 10/008035, filed November 5, 2001; U.S. Patent Publication No. 2002/0055983, published May 9, 2002; abandoned by UNL, 2006.
8. "Controlled Server Loading Using L4/3 Dispatching," Steve Goddard, U.S. Patent Application Serial No. 09/965526, filed September 26, 2001; U.S. Patent Publication No. 2002/0055982, published May 9, 2002; abandoned by UNL, 2006.
9. "Controlled Server Loading," Steve Goddard, U.S. Patent Application Serial No. 09/930014, filed August 15, 2001; U.S. Patent Publication No. 2002/0055980, published May 9, 2002; International Application No. PCT/US01/47013, filed November 5, 2001, International Publication No. WO 02/37799 A2, published May 10, 2002; abandoned by UNL, 2006.
10. "System and Method for an Application-Space Server Cluster," Steve Goddard, Xuehong Gan, and Byrav Ramamurthy, U.S. Patent Application Serial No. 09/878787; filed June 11, 2001; U.S. Patent Publication No. US-2003-0046394-A1, published March 6, 2003; International Application No. PCT/US01/49863, filed October 29, 2001, International Publication No. WO 02/43343 A2, published May 30, 2002; abandoned by UNL, 2006.

## Books Edited and Book Chapters

11. *Proceedings of the 27th Euromicro Conference on Real-Time Systems*, Steve Goddard, editor. IEEE Computer Society, 2015.
12. “Stochastic Modeling of Delay, Energy Consumption, and Lifetime,” Yunbo Wang, Mehmet C. Vuran, and Steve Goddard. Book chapter in *The Art of Wireless Sensor Networks*. Springer, New York, NY, 2014.
13. *IEEE International Conference on Embedded and Real-Time Computing Systems and Applications*, Steve Goddard, Chin-Fu Kuo, Jongeun Lee, editors. IEEE Computer Society, 2012.
14. *Proceedings Real-Time System Symposium*, Steve Goddard, editor. IEEE Computer Society, 2008.
15. *12th IEEE Real-Time and Embedded Technology and Applications Symposium*, Steve Goddard and Steve Liu, editors. IEEE Computer Society, 2006.

## Journal Publications

16. “Biofuels From Crop Residue Can Reduce Soil Carbon and Increase CO<sub>2</sub> Emissions,” Adam J. Liska, Haishun Yang, Maribeth Milner, Steve Goddard, Humberto Blanco-Canqui, Matthew P. Pelton, Xiao X. Fang, Haitao Zhu and Andrew E. Suyker, *Nature Climate Change*, 4, 398–401, 2014.  
doi:10.1038/nclimate2187  
(Contribution: 10%; Type: research, writing and editing)
17. “Design and Optimization for Embedded and Real-Time Computing Systems and Applications,” Jongeun Lee, Steve Goddard, and Chin-Fu Kuo, *Journal of Systems Architecture*, Editorial, 60(2):151, 2014.  
(Contribution: 30%; Type: writing and editing)
18. “Efficient Real-Time Divisible Load Scheduling,” Anwar Mamat, Ying Lu, Jitender Deogun, Steve Goddard, *Journal of Parallel and Distributed Computing*, 72(12):1603-1616, 2012.  
(Contribution: 15%; Type: research, writing and editing)
19. “Scheduling Real-Time Divisible Loads with Advance Reservations,” Anwar Mamat, Ying Lu, Jitender Deogun, Steve Goddard, *Journal of Real-Time Systems*, 48 (3): 264-293, March 2012.  
(Contribution: 15%; Type: research, writing and editing)
20. “Cross-layer Analysis of the End-to-end Delay Distribution in Wireless Sensor Networks,” Yunbo Wang, Mehmet C. Vuran and Steve Goddard, *IEEE/ACM Transactions on Networking*, 20 (1): 305-318, January 2012.  
Digital Object Identifier: 10.1109/TNET.2011.2159845  
(Contribution: 20%; Type: research and editing)
21. “Real-Time Scheduling of Divisible Loads in Cluster Computing Environments,” Xuan Lin, Anwar Mamat, Ying Lu, Jitender Deogun and Steve Goddard, *Journal of Parallel and Distributed Computing*, 70 (3): 296-308, 2010.  
(Contribution: 15%; Type: research, writing and editing)

22. "Modelling Computational Requirements of Mobile Robotic Systems Using Zones and Processing Windows," Ala Qadi, Steve Goddard, Jiangyang Huang and Shane Farritor, *Journal of Real-Time Systems*, 42(1-3): 1-33, 2009.  
(Contribution: 25%; Type: research, writing and editing)
23. "SYS-EDF: a System-wide Energy-efficient Scheduling Algorithm for Hard Real-Time Systems," Hui Cheng and Steve Goddard, *International Journal of Embedded Systems* , 4(2): 141-151, 2009.  
(Contribution: 25%; Type: research, research supervision and editing)
24. "Comparison of Methods for Spatially Estimating Station Temperatures in a Quality Control System," Jinsheng You, Ken G. Hubbard, and Steve Goddard, *International Journal of Climatology*, 28: 777-787, 2008,  
Published Online: 1 Aug 2007, in Wiley InterScience.  
(Contribution: 15%; Type: research and editing)
25. "A Serially Complete U.S. Dataset of Temperature and Precipitation for Decision Support Systems," Zhirong Chen, Steve Goddard, Ken G. Hubbard, William S. Sorensen, and Jinsheng You, *Journal of Environmental Informatics*, 8(2): 86-99, December 2006.  
(Contribution: 25%; Type: research, research supervision and editing)
26. "A Software Architecture and Framework for Web-based Distributed Decision Support Systems," Shifeng Zhang and Steve Goddard, *Journal of Decision Support Systems*, 43 (2007): 1133-1150, 2007; available online 11 August 2005.  
(Contribution: 30%; Type: research supervision and editing)
27. "Localization and Follow-the-leader Control of a Heterogeneous Group of Mobile Robots," Jiangyang Huang, Shane M. Farritor, Ala' Qadi, and Steve Goddard, *IEEE/ASME Transactions on Mechatronics*, 11(2): 205-215, April 2006.  
(Contribution: 10%; Type: research supervision and editing)
28. "Discovering Associations Between Climatic and Oceanic Parameters to Monitor Drought Using Data Mining Techniques in Nebraska," Tsegaye Tadesse, Donald A. Wilhite, Michael J. Hayes, Sherri K. Harms, and Steve Goddard, *Journal of Climate*, 18 (10): 1541-1550, May 2005.  
(Contribution: 10%; Type: research supervision and editing)
29. "Global Control of Robotic Highway Safety Markers: A Real-time Solution," Jiazheng Shi, Steve Goddard, Anagh Lal, Jason Dumpert, and Shane Farritor, *Journal of Real-Time Systems*, 29: 183-204, March 2005.  
(Contribution: 30%; Type: theory and writing)
30. "Scheduling Legacy Multimedia Applications," Xin Liu and Steve Goddard, *Journal of Systems and Software*, 75 (3): 319-328, March 2005.  
(Contribution: 40%; Type: research and writing supervision)
31. "Performance of Quality Assurance Procedures for an Applied Climate Information System," Ken G. Hubbard, Steve Goddard, William D. Sorensen, Nathan Wells, and Thomas T. Osugi, *Journal of Atmospheric and Oceanic Technology*, 22 (1): 105-112, January 2005.  
(Contribution: 20%; Type: research, research supervision and editing)

32. "Intelligent Highway Safety Markers," Shane Farritor and Steve Goddard, *IEEE Intelligent Systems*, 19 (6): 8-12, November 2004.  
(Contribution: 20%; Type: research and writing)
33. "Drought Monitoring Using Data Mining Techniques: A case study for Nebraska, U.S.A.," Tsegaye Tadesse, Donald A. Wilhite, Sherri K. Harms, Michael J. Hayes, and Steve Goddard, *Natural Hazards*, 33 (1): 137-159, September 2004.  
(Contribution: 10%; Type: research supervision and editing)
34. "The Design and Implementation of an OpenGIS Conforming Feature-Coverage-Map Server Implementation Specification for CORBA," Shifeng Zhang and Steve Goddard, *Journal of Environmental Informatics*, 3 (2): 77-88, June 2004.  
(Contribution: 30%; Type: research supervision and editing)
35. "A Self-Calibrating Palmer Drought Severity Index," Nathan Wells, Steve Goddard, and Michael J. Hayes, *Journal of Climate*, 17 (12): 2335-2351, June 2004.  
(Contribution: 40%; Type: research and writing)
36. "OpenGIS Conforming Map-Feature Server Implementation Specifications in Component-Based Distributed Systems," Shifeng Zhang and Steve Goddard, *Environmental Informatics Archives*, 1 (2): 487-496, 2003.  
(Contribution: 40%; Type: research and writing supervision)
37. "Geospatial Decision Support for Drought Risk Management," Steve Goddard, Sherri K. Harms, Stephen E. Reichenbach, Tsegaye Tadesse, and William J. Waltman, *Communications of the ACM*, 46 (1): 35-37, January 2003.  
(Contribution: 25%; Type: system design and writing)
38. "Analyzing the Real-Time Properties of a U.S. Navy Signal Processing System," Steve Goddard and Kevin Jeffay, *International Journal of Reliability, Quality and Safety Engineering*, Special Issue for top ranked HASE'99 papers, 8 (4): 301-322, September 2001.  
(Contribution: 80%; Type: theoretical model and system analysis)
39. "Managing Latency and Buffer Requirements in Processing Graph Chains," Steve Goddard and Kevin Jeffay, *The Computer Journal*, special Issue on High Assurance Systems, Vol. 44, No. 6, 2001, pp. 486-503.  
(Contribution: 70%; Type: theoretical model and system analysis)
40. "LSMAC vs. LSNAT: Scalable Cluster-based Web Servers," Xuehong Gan, Trevor Schroeder, Steve Goddard, and Byrav Ramamurthy, *Cluster Computing: The Journal of Networks, Software Tools and Applications*, 3 (3): 175-185, 2000.  
(Contribution: 25%; Type: system design; acceptance rate unknown)
41. "Scalable Web Server Clustering Technologies," Trevor Schroeder, Steve Goddard, and Byrav Ramamurthy, *IEEE Network: Special Issue on Web Performance*, 14 (3): 38-45, 2000.  
(Contribution: 33%; Type: theory and taxonomy development)
42. "Connected Components Algorithms For Mesh Connected Parallel Computers," Steve Goddard, Subodh Kumar, and Jan F. Prins, *Parallel Algorithms*, Sandeep Bhatt ed., DIMACS: Series in Discrete



Mathematics and Theoretical Computer Science, Vol. 30, American Mathematical Society, Providence, RI, 1997, pp. 43-58.

(Contribution: 33%; Type: graph theory research)

**Refereed and Peer Reviewed Conference Publications** (Each full length paper was reviewed by at least three peers.)

43. "STOOP: Stochastically-Dominant Access Point Selection in Enterprise WLANs," Yu Bai, Mehmet Can Vuran, Demet Batur, and Steve Goddard, *Proceedings of the IEEE Int. Conf. on Smart Computing (SMARTCOMP 2017)*, Hong Kong, China, May 2017, pp. 195 - 202.  
(Contribution: 15%; Type: research and editing; acceptance rate unknown)
44. "Stochastic Performance Trade-offs in the Design of Real-Time Wireless Sensor Networks," Yunbo Wang, Mehmet C. Vuran, and Steve Goddard, *Proceedings of the Int. Conf. on Computing, Networking, and Communications (ICNC '15)*, Anaheim, CA, February 2015, pp. 931 - 937.  
(Contribution: 15%; Type: research and editing; acceptance rate unknown)
45. "Response Time Analysis of Hierarchical Scheduling: the Synchronized Deferrable Servers Approach," Haitao Zhu, Steve Goddard, and Matthew B. Dwyer, *Proceedings of the 32nd IEEE Real-Time Systems Symposium*, Vienna, Austria, December 2011, pp. 239-248.  
(Contribution: 25%; Type: research and editing; 22% acceptance rate)
46. "Analysis of Event Detection Delay in Wireless Sensor Networks," Yunbo Wang, Mehmet C. Vuran, and Steve Goddard, *Proceedings IEEE INFOCOM 2011 (30th IEEE International Conference on Computer Communications)*, Shanghai, China, April 2011, pp. 1296 - 1304.  
(Contribution: 15%; Type: research and editing; 16% acceptance rate)
47. "Feedback-Control Based Real-Time Divisible Load Scheduling," Anwar Mamat, Ying Lu, Jitender Deogun and Steve Goddard, *Proceedings of the 22nd IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS)*, Marina Del Rey, CA, November, 2010, 8 pages.  
DOI: 10.2316/P.2010.724-012  
(Contribution: 15%; Type: research and editing; acceptance rate unknown)
48. "Stochastic Analysis of Energy Consumption in Wireless Sensor Networks," Yunbo Wang, Mehmet C. Vuran, and Steve Goddard, *Proceedings of the 7th IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON 2010)*, Boston, MA, U.S.A., June 2010, pp. 1 - 9.  
DOI: 10.1109/SECON.2010.5508259  
(Contribution: 15%; Type: research and editing; 23% acceptance rate)
49. "A Concept Lattice-based Event Model for Cyber-Physical Systems," Ying Tan, Mehmet C. Vuran, Steve Goddard, Yue Yu, Miao Song and Shangping Ren, *Proceedings of the ACM/IEEE First International Conference on Cyber-Physical Systems*, Stockholm, Sweden, April, 2010, pp. 50-60.  
(Contribution: 15%; Type: research and editing; approximately 25% acceptance rate)
50. "Selecting Server Parameters for Predictable Runtime Monitoring," Haitao Zhu, Steve Goddard, and Matthew B. Dwyer, *Proceedings of the 16th IEEE Real-Time and Embedded Technology and Applications Symposium*, Stockholm, Sweden, April, 2010, pp. 227-236.  
(Contribution: 25%; Type: research and editing; 22% acceptance rate)

51. "An Efficient Algorithm for Real-Time Divisible Load Scheduling," Anwar Mamat, Ying Lu, Jitender Deogun, Steve Goddard, *Proceedings of the 16th IEEE Real-Time and Embedded Technology and Applications Symposium*, Stockholm, Sweden, April, 2010, pp. 323-332.  
(Contribution: 15%; Type: research and editing; 22% acceptance rate)
52. "Real-Time Scheduling of Divisible Loads in Clusters to Handle Estimated Execution Time Inaccuracies," Duc Luong, Ying Lu, Jitender Deogun, Steve Goddard, *Proceedings of the 7th International Conference on Cybernetics and Information Technologies, Systems and Applications: CITSA 2010*, Orlando, Florida, June 2010.  
(Contribution: 15%; Type: research and editing; acceptance rate unknown)
53. "Cross-layer Analysis of the End-to-end Delay Distribution in Wireless Sensor Networks," Yunbo Wang, Mehmet C. Vuran and Steve Goddard, *Proceedings of the 30th IEEE Real-Time Systems Symposium*, Washington, D.C., December 2009, pp. 138-147.  
(Contribution: 20%; Type: research and editing; 21% acceptance rate)
54. "Real-time Divisible Load Theory: A Perspective," Suriyati Chuprat, Shaharuddin Salleh, and Steve Goddard *Proceedings of the Workshop on Real-time Systems on Multicore Platforms: Theory and Practice* (being held in conjunction with ICPP'09), Vienna, Austria, September, 2009, 6 pages.  
(Contribution: 20%; Type: research and editing; acceptance rate unknown)
55. "Predictable Runtime Monitoring," Haitao Zhu, Matthew B. Dwyer and Steve Goddard, *Proceedings of the 21st Euromicro Conference on Real-Time Systems*, Dublin, Ireland, July 2009, pp. 173-183.  
(Contribution: 25%; Type: research and editing; 25% acceptance rate)
56. "Event Model for Cyber-Physical Systems," Ying Tan, Mehmet Can Vuran and Steve Goddard, *Proceedings of the 29th IEEE International Conference on Distributed Computing Systems Workshops, The 2nd International Workshop on Cyber-Physical Systems (WCPS 2009)*, Montreal, Canada, June 2009, pp. 44-50.  
(Contribution: 30%; Type: research and editing; acceptance rate unknown)
57. "Multi-Round Real-Time Divisible Load Scheduling for Clusters," Xuan Lin, Ying Lu, Jitender Deogun, Steve Goddard, *Proceedings of the 15th International Conference on High Performance Computing-HiPC 2008*, Bangalore, India, December, 2008, pp. 196-207.  
(Contribution: 15%; Type: research and editing; 15% acceptance rate)
58. "Real-Time Divisible Load Scheduling with Advance Reservations," Anwar Mamat, Ying Lu, Jitender Deogun and Steve Goddard *Proceedings of the 20th Euromicro Conference on Real-Time Systems*, Prague, Czech Republic, July 2008, pp. 37-46.  
(Contribution: 15%; Type: research and editing; 31% acceptance rate)
59. "Using Dynamic Processing Windows for Robot Group Control," Ala' Qadi, Steve Goddard, Jiangyang Huang, and Shane Farritor, *Proceedings of the 2008 IEEE International Conference on Robotics and Automation*, Pasadena, California, May, 2008, pp. 3782-3789.  
(Contribution: 25%; Type: research and editing; 43% acceptance rate)
60. "Enhanced Real-Time Divisible Load Scheduling with Different Processor Available Times," Xuan Lin, Ying Lu, Jitender Deogun, Steve Goddard, *Proceedings of the 14th International Conference on High Performance Computing-HiPC 2007*, Goa, India, December, 2007, pp. 308-319.  
(Contribution: 15%; Type: research and editing; 21% acceptance rate)

61. "Real-Time Divisible Load Scheduling with Different Processor Available Times," Xuan Lin, Ying Lu, Jitender Deogun, Steve Goddard, *Proceedings of the 2007 International Conference on Parallel Processing (ICPP-07)*, XiAn, China, September, 2007, 20 pages.  
(Contribution: 15%; Type: research and editing; 25% acceptance rate)
62. "Dynamic Speed and Sensor Rate Adjustment for Mobile Robotic Systems," Ala' Qadi, Steve Goddard, Jiangyang Huang, and Shane Farritor, *Proceedings of the 19th Euromicro Conference on Real-Time Systems*, Pisa, Italy, July 2007, pp. 93-102.  
(Contribution: 25%; Type: research; 30% acceptance rate)
63. "Real-Time Divisible Load Scheduling for Cluster Computing," Xuan Lin, Ying Lu, Jitender Deogun and Steve Goddard, *Proceedings of the 13th IEEE Real-Time and Embedded Technology and Applications Symposium*, Bellevue, Washington, April, 2007, pp. 303-314.  
(Contribution: 15%; Type: research and editing; 30% acceptance rate)
64. "EEDS\_NR: An Online Energy-Efficient I/O Device Scheduling Algorithm for Hard Real-Time Systems with Non-preemptible Resources," Hui Cheng and Steve Goddard, *Proceedings of the 18th Euromicro Conference on Real-Time Systems*, Dresden Germany, July 2006, pp. 251-260.  
(Contribution: 25%; Type: research; 20% acceptance rate)
65. "VRE-NET: A QoS-supported Network Subsystem for Multimedia Applications," Hui Cheng and Steve Goddard, *Proceedings of the IEEE 20th International Conference on Advanced Information Networking and Applications (AINA 2006)*, Vienna, Austria, April 2006, pp. 113-118.  
(Contribution: 40%; Type: research; 32% acceptance rate)
66. "Online Energy-Aware I/O Device Scheduling for Hard Real-Time Systems," Hui Cheng and Steve Goddard, *Proceedings of Design, Automation and Test in Europe (Date 06)*, Munich, Germany, March 2006, pp. 1055-1060.  
(Contribution: 40%; Type: research; 25% acceptance rate)
67. "An Algorithm for Boundary Discovery in Wireless Sensor Networks, " Jitender S. Deogun, Saket Das, Haitham S. Hamza, Steve Goddard, *Proceedings of the 12th Annual IEEE International Conference on High Performance Computing (HiPC)*, Goa, India, December 2005.  
(Contribution: 10%; Type: research supervision; 18.5% acceptance rate)
68. "Integrated Device Scheduling and Processor Voltage Scaling for System-wide Energy Conservation", Hui Cheng and Steve Goddard, *Proceedings of the 2nd Int'l Workshop on Power-Aware Real-Time Computing (PARC '05)*, Jersey City, New Jersey, September, 2005  
(Contribution: 30%; Type: research supervision; acceptance rate unknown)
69. "A Performance and Schedulability Analysis of an Autonomous Mobile Robot," Ala' Qadi, Steve Goddard, Jiangyang Huang, and Shane Farritor, *Proceedings of the 17th Euromicro Conference on Real-Time Systems*, Palma de Mallorca, Balearic Islands, Spain, July 2005, pp. 239-248.  
(Contribution: 35%; Type: theory and writing; 17% acceptance rate)
70. "xSADL: An Architecture Description Language to Specify Component-based Systems," Shifeng Zhang and Steve Goddard, *Proceedings of the International Conference on Information Technology Coding and Computing*, Las Vegas, Nevada, April 2005.  
(Contribution: 20%; Type: research supervision; acceptance rate unknown)

71. "A Variable Rate Execution Model," Steve Goddard and Xin Liu, *Proceedings of the 16th Euromicro Conference on Real-Time Systems*, Catania, Italy, July 2004, pp. 135-143.  
(Contribution: 55%; Type: theory and writing; 25% acceptance rate)
72. "A Stateful Architecture Description Language to Support Component Composition," Shifeng Zhang and Steve Goddard, *Proceedings of the 2004 International Conference on Software Engineering Research and Practice*, Las Vegas, Nevada, June 2004, pp. 327-335.  
(Contribution: 30%; Type: research supervision and editing; acceptance rate unknown)
73. "A Stateful Architecture Description Language and Its Supporting Development Environment, Shifeng Zhang and Steve Goddard, *Proceedings of International Workshop on Systems/Software Architectures*, Las Vegas, Nevada, June 2004, pp. 74-80.  
(Contribution: 30%; Type: research supervision and editing; acceptance rate unknown)
74. "Supporting Dynamic QoS in Linux," Xin Liu and Steve Goddard, *Proceedings of the 10th IEEE Real-Time and Embedded Technology and Applications Symposium*, Toronto, Canada, May 2004, pp. 246-254.  
(Contribution: 40%; Type: theory and writing; 30% acceptance rate)
75. "A Real-Time Model for the Robotic Highway Safety Marker System," Jiazheng Shi, Steve Goddard, Anagh Lal, and Shane Farritor, *Proceedings of the 10th IEEE Real-Time and Embedded Technology and Applications Symposium*, Toronto, Canada, May 2004, pp. 331-340.  
(Contribution: 30%; Type: theory and writing; 30% acceptance rate)
76. "Digital Government: Reviving the Newhall Simulation Model to Understand the Patterns and Trends of Soil Climate Regimes and Drought Events," William J. Waltman, Steve Goddard, Stephen E. Reichenbach, Gang Gu, Ian J. Cottingham, Jeff S. Peake, Tsegaye Tadesse, Sherri K. Harms, and Jitender S. Deogun, *Proceedings of the National Conference on Digital Government Research*, Seattle, Washington, May 2004, pp. 117-126.  
(Contribution: 40%; Type: research, system development; 33% acceptance rate)
77. "A Dynamic Voltage Scaling Algorithm for Sporadic Tasks," Ala' Qadi, Steve Goddard, and Shane Farritor, *Proceedings of the 24th IEEE Real-Time Systems Symposium*, Cancun, Mexico, December 2003, pp. 52-62.  
(Contribution: 45%; Type: theory and writing; 19% acceptance rate)
78. "Patterns and Trends of Soil Climate Regimes and Drought Events in the Northern Great Plains," W.J. Waltman, S. Goddard, S.E. Reichenbach, M.D. Svoboda, M.J. Hayes, and J.S. Peake, *Proceedings of the Applied Geography Conference*, Colorado Springs, Colorado, November 2003.  
(Contribution: 20%; Type: research; acceptance rate unknown)
79. "Resource Sharing in an Enhanced Rate-Based Execution Model," Xin Liu and Steve Goddard, *Proceedings of the 15th Euromicro Conference on Real-Time Systems*, Porto, Portugal, July 2003, pp. 131-140.  
(Contribution: 40%; Type: research and writing supervision; 31% acceptance rate)
80. "3CoFramework: A Component-Based Framework for Distributed Applications," Shifeng Zhang and Steve Goddard, *Proceedings of the International Conferences on Software Engineering Research and Practice 2003*, Volume I, Las Vegas, Nevada, June 2003, pp. 398-404.  
(Contribution: 40%; Type: research supervision and editing; acceptance rate unknown)

81. "Building Knowledge Discovery into a Geo-spatial Decision Support System," Sherri Harms, Jitender Deogun, Steve Goddard and Tsegaye Tadesse, *Proceedings of the 2003 ACM Symposium on Applied Computing*, Melbourne, Florida, March 2003, pp. 445-449.  
(Contribution: 25%; Type: system architecture and writing; 26% acceptance rate in Data Mining Track)
82. "Scheduling Aperiodic Requests under the Rate-Based Execution Model," Steve Goddard and Xin Liu, *Proceedings of the 23rd IEEE Real-Time Systems Symposium*, Austin, Texas, December 2002, pp. 15-25.  
(Contribution: 75%; Type: theory and writing; 30% acceptance rate)
83. "An E-Commerce Decision Support System Design for Web Customer Retention," David Olson, Sebastian Elbaum, Steve Goddard, Fred Choobineh, *Proceedings of Americas Conference on Information Systems*, Dallas, Texas, August 2002, pp. 201-207.  
(Contribution: 25%; Type: system design; acceptance rate unknown)
84. "A Software Architecture for Distributed Geospatial Decision Support Systems," Steve Goddard, Shifeng Zhang, William Waltman, Dennis Lytle, and Seavey Anthony, *Proceedings of the Second National Conference on Digital Government Research*, Los Angeles, California, May 2002, pp. 45-52.  
(Contribution: 30%; Type: system design, writing; acceptance rate unknown)
85. "The SASHA Architecture for Network-Clustered Web Servers," Steve Goddard and Trevor Schroeder, *Proceedings of the Sixth IEEE International Symposium on High Assurance Systems Engineering*, Boca Raton, Florida, October 2001, pp. 163-172.  
(Contribution: 50%; Type: theoretical model and system design; 45% acceptance rate)
86. "An Unavailability Analysis of Firewall Sandwich Configurations," Steve Goddard, Roger Kieckhafer and Yuping Zhang, *Proceedings of the Sixth IEEE International Symposium on High Assurance Systems Engineering*, Boca Raton, Florida, October 2001, pp. 139-148.  
(Contribution: 33%; Type: system design; 45% acceptance rate)
87. "Data Mining in a Geospatial Support System for Drought Risk Management," Sherri Harms, Steve Goddard, Stephen Reichenbach, William Waltman, and Tsegaye Tadesse, *Proceedings of the First National Conference on Digital Government Research*, Los Angeles, California, May 2001, pp. 9-16.  
(Contribution: 20%; Type: system design; acceptance rate unknown)
88. "The Synthesis of Real-Time Systems from Processing Graphs," Steve Goddard and Kevin Jeffay, *Proceedings of the Fifth IEEE International Symposium on High Assurance Systems Engineering*, Albuquerque, New Mexico, November 2000, pp. 177-186.  
(Contribution: 80%; Type: theoretical model and system analysis; 44% acceptance rate)
89. "Capturing an Application's Temporal Properties with UML for Real-Time," Weiguo He and Steve Goddard, *Proceedings of the Fifth IEEE International Symposium on High Assurance Systems Engineering*, Albuquerque, New Mexico, November 2000, pp. 65-74.  
(Contribution: 50%; Type: theoretical model; 44% acceptance rate)
90. "LSMAC and LSNAT: Two Approaches for Cluster-based Scalable Web Servers," Xuehong Gan, Trevor Schroeder, Steve Goddard and Byrav Ramamurthy, *Proceedings of ICC 2000*, New Orleans, Louisiana, June 2000.  
(Contribution: 25%; Type: system design; acceptance rate unknown)

91. "A Theory of Rate-Based Execution," Kevin Jeffay and Steve Goddard, *Proceedings of the 20th IEEE Real-Time Systems Symposium*, Phoenix, Arizona, December 1999, pp. 304-314.  
(Contribution: 50%; Type: theoretical model; 27% acceptance rate)
92. "Analyzing the Real-Time Properties of a U.S. Navy Signal Processing System," Steve Goddard and Kevin Jeffay, *Proceedings of the Fourth IEEE International Symposium on High Assurance Systems Engineering*, Washington, D.C., November 1999, pp. 141-150.  
(Contribution: 80%; Type: theoretical model and system analysis; 45% acceptance rate)
93. "Managing Memory Requirements in the Synthesis of Real-Time Systems from Processing Graphs," Steve Goddard and Kevin Jeffay, *Proceedings of the IEEE Real-Time Technology and Applications Symposium*, Denver, Colorado, June 1998, pp. 59-70.  
(Contribution: 70%; Type: theoretical model and system analysis; 28% acceptance rate)
94. "Feasibility Concerns in PGM Graphs with Bounded Buffers," Sanjoy Baruah, Steve Goddard and Kevin Jeffay, *Proceedings of the Third IEEE International Conference on Engineering of Complex Computer Systems*, Como, Italy, September 1997, pp. 130-139.  
(Contribution: 33%; Type: theory research; acceptance rate unknown)
95. "Analyzing the Real-Time Properties of a Dataflow Execution Paradigm using a Synthetic Aperture Radar Application," Steve Goddard and Kevin Jeffay, *Proceedings of the IEEE Real-Time Technology and Applications Symposium*, Montreal, Canada, June 1997, pp. 60-71.  
(Contribution: 60%; Type: theoretical model and system analysis; 27% acceptance rate)
96. "Connected Components Algorithms For Mesh Connected Parallel Computers," Subodh Kumar, Steve Goddard, and Jan F. Prins, *Proceedings of the Third DIMACS Implementation Challenge*, October 1994, pp. 37-51.  
(Contribution: 33%; Type: experimental analysis; acceptance rate unknown)

### **Peer Reviewed Regional Conference Publications**

(Each full length paper was reviewed by at least two peers.)

97. "Comparison of Three Kalman Filters for an Indoor Passive Tracking System," Shuo Shen, Chen Xia, Robert Sprick, Lance Perez, Steve Goddard, *Proceedings of the IEEE Electro/Information Technology Conference*, Chicago, Illinois, May 2007.  
(Contribution: 20%; Type: writing and research supervision; acceptance rate unknown)
98. "A Study on the Cricket Location-Support System Communication Protocols," Yunbo Wang, Steve Goddard, Lance Perez, *Proceedings of the IEEE Electro/Information Technology Conference*, Chicago, Illinois, May 2007.  
(Contribution: 33%; Type: writing and research supervision; acceptance rate unknown)
99. "On the Ranging in the Cricket Localization System," Charles Gleason, Lance C. Pérez, Steve Goddard, *Proceedings of the IEEE Electro/Information Technology Conference*, East Lansing, Michigan, May 2006, pp. 619-624.  
(Contribution: 20%; Type: writing and research supervision; acceptance rate unknown)
100. "2-D Tracking Performance Evaluation Using the Cricket Location-Support System," Saket Das, Charles Gleason, Shuo Shen, Steve Goddard, Lance C. Pérez, *Proceedings of the IEEE Electro/Information Technology Conference*, Lincoln, Nebraska, May 2005, pp. 1-6.  
(Contribution: 20%; Type: writing and research supervision; acceptance rate unknown)

## Short Paper or Abstract Reviewed Publications

101. "Efficient Real-Time Divisible Load Scheduling with Advance Reservations, Anwar Mamat, Ying Lu, Jitender Deogun, Steve Goddard, *Proceedings of the 31st IEEE Real-Time Systems Symposium Work in Progress (RTSS WIP)*, San Diego, CA, 4 Pages, December, 2010  
(Contribution: 10%; Type: theory and writing)
102. "Developing New Models to Reason about Time and Space," Jitender S. Deogun and Steve Goddard, *Proceedings of the 14th IEEE Real-Time and Embedded Technology and Applications Symposium Work in Progress*, St. Louis, Missouri, April 2008, 4 pages.  
(Contribution: 50%; Type: theory and writing)
103. "Feedback Scheduling of Real-Time Divisible Loads in Clusters," Duc Luong, Jitender S. Deogun and Steve Goddard, *Proceedings of the 14th IEEE Real-Time and Embedded Technology and Applications Symposium Work in Progress*, St. Louis, Missouri, April 2008, 4 pages.  
(Contribution: 25%; Type: theory and writing)
104. "Multi-Round Real-Time Divisible Load Scheduling for Clusters," Xuan Lin, Ying Lu, Jitender Deogun, and Steve Goddard, *Proceedings of the 12th IEEE Real-Time and Embedded Technology and Applications Symposium Work in Progress*, San Jose, California, April 2006, pp. 28-31.  
(Contribution: 25%; Type: theory and writing)
105. "Localization and Follow-the-Leader Control of Heterogeneous Groups of Mobile Robots," Jiangyang Huang, Shane M. Farritor, Ala' Qadi, and Steve Goddard, *Proceedings of ASME International Mechanical Engineering Congress and Exposition*, Orlando, Florida, November, 2005.  
(Contribution: 10%; Type: research supervision)
106. "Variable-Rate QoS in the OS Network Subsystem," Hui Cheng, Xin Liu, and Steve Goddard, *Proceedings of the 1st Intl. Workshop on Operating Systems Platforms for Embedded Real-Time Applications (OSPRT)*, Palma de Mallorca, Balearic Islands, Spain, July 2005.  
(Contribution: 30%; Type: theory and writing)
107. "Fixed-Priority Scheduling of Variable Rate Tasks for an Autonomous Mobile Robot," Ala' Qadi and Steve Goddard, *Proceedings of the 11th IEEE Real-Time and Embedded Technology and Applications Symposium Work in Progress*, San Francisco, California, March 2005, pp. 13-16.  
(Contribution: 40%; Type: theory and writing)
108. "A GRASS-based High Performance Spatial Interpolation Component for Spatial Decision Support," Kun Lu and Steve Goddard, *Proceedings of the FOSS/GRASS 2004 International Conference*, V. Raghaven and P. Satitamnant, Editors, Bangkok, Thailand, September 2004.  
(Contribution: 30%; Type: research and writing supervision)
109. "Development of a Component-based GIS using GRASS," Xueming Wu, Shifeng Zhang and Steve Goddard, *Proceedings of the FOSS/GRASS 2004 International Conference*, V. Raghaven and P. Satitamnant, Editors, Bangkok, Thailand, September 2004.  
(Contribution: 20%; Type: research and writing supervision)
110. "Dynamic Real-Time Scheduling for Energy Conservation in I/O Devices," Rohini Krishnapura and Steve Goddard, *Proceedings of the 24th IEEE Real-Time Systems Symposium Work in Progress*, Cancun, Mexico, December 2003, pp. 85-88.  
(Contribution: 40%; Type: theoretical model)

111. "A Loadable Variable-Rate Execution Scheduler," Xin Liu and Steve Goddard, *Proceedings of the Fifth Real-Time Linux Workshop*, Valencia, Spain, November 9-11, 2003.  
(Contribution: 40%; Type: theoretical model)
112. "Time-Series Data Mining in a Geospatial Decision Support System," Dan Li, Sherri Harms, Steve Goddard, William J. Waltman, and Jitender Deogun, *Proceedings of the National Conference on Digital Government Research (dg.o2003)*, pp. 387-390, Boston, MA, May 2003.  
(Contribution: 10%; Type: research and editing)
113. "Monitoring Drought with Improved Drought Index Resolution," M. J. Hayes, M. D. Svoboda, W. J. Waltman, S. M. Goddard, and K. G. Hubbard, *Proceedings of the American Meteorological Society Applied Climatology Meetings*, Portland, OR, May 2002.  
(Contribution: 10%; Type: research and editing)
114. "Bootstrapping the Software Design Studio," Steven R. Dunbar, Steve Goddard, Scott Henninger, Sebastian Elbaum, *Proceedings of the NCIIA 5<sup>th</sup> Annual Conference Technology, Products & Ventures: Creativity & Innovation in Higher Education*, Washington, DC, March 2001, pp. 179-188.  
(Contribution: 25%; Type: design and experience results)
115. "EEVDF Proportional Share Resource Allocation Revisited" Steve Goddard and Jian Tang, *Proceedings of the 21st IEEE Real-Time Systems Symposium Work in Progress*, Orlando, Florida, December 2000, pp. 21-24.  
(Contribution: 50%; Type: theoretical model)
116. "Distributed Real-Time Dataflow: An Execution Paradigm for Image Processing and Anti-Submarine Warfare Applications," Steve Goddard and Kevin Jeffay, *Proceedings of the IEEE Real-Time Systems Symposium Work in Progress*, Washington, DC, December 1996, pp. 55-58.  
(Contribution: 50%; Type: theoretical model and system analysis)

### Invited Papers

117. "Research and Economic Development Growth Initiative (REDGI): 2012-2017" Steve Goddard, *University Research Planning in the Data Era*, The Merrill Advanced Studies Center, University of Kansas, to appear in 2017.
118. "Social & Behavioral Sciences Research: Is now the time to invest?" Steve Goddard and Dan Hoyt, *Research Innovation as a Pathway to the Future, Merrill Series on The Research Mission of Public Universities*, The Merrill Advanced Studies Center, University of Kansas, 2015.
119. "Dynamic Scheduling for Constraint-Aware Embedded Systems," Rohini Krishnapura and Steve Goddard, *Proceedings of the Constraint-Aware Embedded Software Workshop at the 24<sup>th</sup> IEEE Real-Time Systems Symposium*, Cancun, Mexico, December 2003.
120. "Rate-Based Resource Allocation Models for Embedded Systems," Kevin Jeffay and Steve Goddard, *Embedded Software: Proceedings First International Workshop, EMSOFT 2001*, published in *Lecture Notes in Computer Science*, Vol. 2211, Springer Verlag, Berlin, 2001, pp. 204-222.

### Dissertation

121. *On the Management of Latency in the Synthesis of Real-Time Signal Processing Systems from Processing Graphs*, Steve Goddard Ph.D. Dissertation, University of North Carolina at Chapel Hill, Department of Computer Science, 1998.



## Invited Presentations

1. “Cool Gadgets,” 2013 Prairie Health Ventures Material Managers Retreat, Nebraska City, April 18, 2013.
2. “Building an Innovation-minded Culture at UNL: Challenges and Opportunities,” TEDxUNL, Lincoln, Nebraska, September 14, 2012.
3. “Towards Stochastic Delay and Lifetime Guarantees in Cyber Physical Networks”, 2nd International Workshop on Cyber-Physical Systems, Daegu Gyeongbuk Institute of Science & Technology (DG-IST), August 23, 2012.
4. “Developing the Self-Calibrating Palmer Drought Severity Index: Is this computer science or climatology?”, University of North Carolina, Department of Computer Science, October 26, 2007.
5. “High Confidence Challenges and Technologies for Operating System Platforms,” invited presentation as an expert researcher and visionary at the Planning Meeting for the National Workshop on the Development of the Next Generation of High Confidence Real-Time Systems Technologies, invited by the High Confidence Software and Systems (HCSS) Coordinating Group (CG) of the Federal Networking and Information Technology Research and Development (NITRD) Subcommittee, National Science and Technology Council (NSTC), July 10, 2006.
6. “Embedded and Real-Time Cyber-Physical Systems,” invited presentation as an expert researcher and visionary at the NSF Planning Meeting on Cyber-Physical Systems, invited by Raj Rajkumar, Carnegie Mellon University, and Insup Lee, University of Pennsylvania, Workshop Co-Chairs, July 27, 2006.
7. “Rate-Based Scheduling in Self-Healing Networked Information Systems,” invited presentation as a topic expert, DARPA Study on Self-Healing Networked Information Systems, Chair: Fred B. Schneider, December 5, 2001.
8. “A Geospatial Decision Support System for Drought and Crop Risk Analysis in Nebraska,” co-presenter: W.J. Waltman, Computer Science & Engineering Fall 2001 Colloquium Series, University of Nebraska-Lincoln, November 29, 2001.
9. “The Synthesis of Real-Time Systems from Signal Processing Graphs,” Computer Engineering Colloquium Series, Michigan Technical University, October 20, 2001.
10. “Assured Quality of Service for Clustered Web Servers,” invited seminar, Flextel, S.p.A, Ivrea (TO), Italy, November 10, 2000.
11. “Scalable Web Server Clustering Technologies,” invited seminar, Centro Studi e Laboratori Telecomunicazioni (CSELT) S.p.A, Turin, Italy, November 9, 2000.

## Teaching

Dr. Goddard has taught mostly computer systems courses, such as Operating Systems, Operating Systems Kernels, Real-Time Systems, Distributed Systems, Computer Organization, but he has also taught Algorithms, and Computational Complexity Theory.

Dr. Goddard has been a member of 119 committees for students that have graduated, including the advisor of 6 Ph.D. students, 28 M.S. or M.Eng. students and 6 B.S. students.

## Courses Taught

Summer 2013: CSCE 999 Doctoral Dissertation (1 Student)  
Spring 2013: CSCE 999 Doctoral Dissertation (1 Students)  
Fall 2012: CSCE 999 Doctoral Dissertation (1 Students)  
Summer 2012: CSCE 999 Doctoral Dissertation (1 Student)  
Spring 2012: CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 424/824: Computational Complexity Theory (23 Students)  
Fall 2011: CSCE 999 Doctoral Dissertation (2 Students)  
Summer 2011: CSCE 999 Doctoral Dissertation (1 Student)  
Spring 2011: CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 996 Research Other Than Thesis (2 Students)  
Fall 2010: CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 996 Research Other Than Thesis (2 Students)  
CSCE 899 Masters Thesis (1 Student)  
Summer 2010: CSCE 999 Doctoral Dissertation (1 Student)  
CSCE 996 Research Other Than Thesis (1 Student)  
Spring 2010: CSCE 999 Doctoral Dissertation (3 Students)  
RAIK 284H Foundations of Computer Systems (21 Students)  
Fall 2009: CSCE 999 Doctoral Dissertation (3 Students)  
CSCE 996 Research Other Than Thesis (2 Students)  
Summer 2009: CSCE 999 Doctoral Dissertation (3 Students)  
CSCE 996 Research Other Than Thesis (2 Students)  
Spring 2009: CSCE 999 Doctoral Dissertation (3 Students)  
RAIK 284H Foundations of Computer Systems (17 Students)  
Fall 2008: CSCE 999 Doctoral Dissertation (3 Students)  
Summer 2008: CSCE 999 Doctoral Dissertation (3 Students)  
CSCE 996 Research Problems Other Than Thesis (2 Students)  
CSCE 899 Masters Thesis (1 Student)  
Spring 2008: JDEP 284H Foundations of Computer Systems (22 Students)  
CSCE 999 Doctoral Dissertation (4 Students)  
CSCE 899 Masters Thesis (2 Student)  
Fall 2007: CSCE 990 Real-Time Systems (15 Students)  
CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 899 Masters Thesis (2 Student)  
Summer 2007: CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 996 Research Problems Other Than Thesis (6 Students)  
Spring 2007: JDEP 284H Foundations of Computer Systems (26 Students)  
CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 399H Honors Thesis (1 Students)  
Fall 2006: CSCE 999 Doctoral Dissertation (3 Students)  
Summer 2006: CSCE 999 Doctoral Dissertation (3 Students)  
CSCE 996 Research Problems Other Than Thesis (3 Students)  
Spring 2006: JDEP 284H Foundations of Computer Systems (29 Students)  
CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 897 Masters Project (1 Student)

Fall 2005: CSCE 990 Real-Time Systems (6 Students)  
CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 996 Research Other Than Thesis (1 Student)  
CSCE 899 Masters Thesis (1 Student)  
CSCE 897 Masters Project (1 Student)  
CSCE 898 Computer Problems (1 Student)

Summer 2005: CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 996 Research Problems Other Than Thesis (5 Students)

Spring 2005: JDEP 284H Foundations of Computer Systems (22 Students)  
CSCE 990 Network Systems Seminar (co-taught)  
CSCE 999 Doctoral Dissertation (3 Students)  
CSCE 996 Research Other Than Thesis (2 Students)  
CSCE 899 Masters Thesis (3 Students)  
CSCE 897 Masters Project (1 Student)  
CSCE 898 Computer Problems (1 Student)

Fall 2004: JDEP 283H Foundations of Computer Science (26 Students)  
CSCE 990 Network Systems Seminar (co-taught)  
CSCE 999 Doctoral Dissertation (4 Students)  
CSCE 996 Research Problems Other Than Thesis (1 Student)  
CSCE 899 Masters Thesis (1 Student)

Summer 2004: CSCE 999 Doctoral Dissertation (4 Students)  
CSCE 996 Research Problems Other Than Thesis (4 Students)

Spring 2004: CSCE 230J Computer Organization (22 Students)  
CSCE 990 Network Systems Seminar (co-taught)  
CSCE 999 Doctoral Dissertation (3 Students)  
CSCE 996 Research Problems Other Than Thesis (1 Student)  
CSCE 899 Masters Thesis (2 Students)  
CSCE 897 Masters Project (1 Student)  
CSCE 891 Internship (1 Students)

Fall 2003: CSCE 990 Real-Time Systems (8 Students)  
CSCE 990 Network Systems Seminar (co-taught)  
CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 996 Research Problems Other Than Thesis (1 Students)  
CSCE 899 Masters Thesis (2 Students)  
CSCE 897 Masters Project (1 Student)  
CSCE 891 Internship (1 Students)

Summer 2003: CSCE 999 Doctoral Dissertation (2 Students)  
CSCE 996 Research Problems Other Than Thesis (2 Students)  
CSCE 899 Masters Thesis (2 Students)  
CSCE 897 Masters Project (1 Student)  
CSCE 896 Special Topics in CS (2 Students)

Spring 2003: CSCE 230J Computer Organization (new prep; 23 Students)  
CSCE 990 Network Systems Seminar (co-taught)  
CSCE 899 Masters Thesis (3 Students)  
CSCE 999 Doctoral Dissertation (2 Students)

Fall 2002: CSCE 310J Data Structures & Algorithms (new prep; 23 Students)  
CSCE 990 Network Systems Seminar (co-taught)  
CSCE 899 Masters Thesis (1 Student)

Summer 2002: CSCE 996 Research Problems Other Than Thesis (4 Students)  
 CSCE 999 Doctoral Dissertation (2 Students)  
 CSCE 896 Special Topics in CS (1 Student)  
 CSCE 897 Masters Project (1 Student)  
 CSCE 399H Honors Thesis (1 Student)

Spring 2002: CSCE 990 Real-Time Systems  
 CSCE 990 Network Systems Seminar (co-taught)  
 CSCE 897 Masters Project (5 Students)  
 CSCE 899 Masters Thesis (1 Student)  
 CSCE 996 Research Problems Other Than Thesis (2 Students)

Fall 2001: CSCE 351 Operating System Kernels (new prep)  
 CSCE 231 Assembly Language & Systems Programming (1 Student)  
 CSCE 990 Network Systems Seminar (co-taught)  
 CSCE 896 Masters Project (1 Student)  
 CSCE 996 Research Problems Other Than Thesis (1 Student)

Summer 2001: CSCE 996 Research Problems Other Than Thesis (6 Students)

Spring 2001: CSCE 897 JDEHP Design Studio (new prep)  
 CSCE 455/855 Distributed Operating Systems  
 CSCE 990 Network Systems Seminar (co-taught)  
 CSCE 899 Masters Thesis (1 Student)  
 CSCE 896 Masters Project (1 Student)

Fall 2000: CSCE 897 JDEHP Design Studio (new prep)  
 CSCE 990 Network Systems Seminar (co-taught)  
 CSCE 896 Masters Project (2 Students)

Summer 2000: CSCE 996 Research Problems Other Than Thesis (2 Students)  
 CSCE 896 Masters Project (1 Student)

Spring 2000: CSCE 990 Real-Time Systems (new prep)  
 CSCE 990 Network Systems Seminar (co-taught)  
 CSCE 996 Research Problems Other Than Thesis (2 Students)  
 CSCE 899 Masters Thesis (1 Student)  
 CSCE 399H Honors Thesis (1 Student)

Fall 1999: CSCE 451/851 Operating Systems Principles  
 CSCE 990 Network Systems Seminar (co-taught)  
 CSCE 996 Research Problems Other Than Thesis (1 Student)  
 CSCE 399H Honors Thesis (1 Student)

Summer 1999: CSCE 996 Research Problems Other Than Thesis (1 Student)

Spring 1999: CSCE 451/851 Operating Systems Principles  
 CSCE 455/855 Distributed Operating Systems (new prep)  
 CSCE 990 Network Systems Seminar (co-taught) (new prep)  
 CSCE 396H Special Topics in Computer Science (one student)

Fall 1998: CSCE 451/851 Operating Systems Principles (new prep)  
 CSCE 296 Special Topics in Computer Science (one student)

Summer 1997: COMP 4 Computers: Power Tools for the Mind (at UNC) (new prep)

Fall 1989 E005: Developing Applications for the AN/UYS-2A (for NRL) (new prep)

## **Awards and Fellowships received by Students under my supervision**

1. *Othmer Fellowship* awarded to Haitao Zhu, \$7,500 per year, 2007-2008; 2008-2009; 2009-2010.
2. *2007-2008 Outstanding Ph.D. Award* awarded to Ala' Qadi, \$100, 2008.
3. *Best Open Questions Talk*, awarded to Ying Tan at the Ph.D. Student Forum on Deeply Embedded Real-Time Computing held in conjunction with the 2007 IEEE Real-Time Systems Symposium, December 2007.
4. "Undergraduate Creative Activity and Research Experience (UCARE)," awarded to Derrick Stolee, 5/1/05–4/30/06, \$2,400. Faculty Advisor: S. Goddard.
5. *2004-2005 Outstanding Master's Student Award* awarded to Rohini Krishnapura, \$100, 2005.
6. *John Borrlson Fellowship* awarded to Ala' Qadi, \$1,000, 2004-2005.
7. "Undergraduate Creative Activity and Research Experience (UCARE)," awarded to Derrick Stolee, 5/1/04–4/30/05, \$2,000. Faculty Advisor: S. Goddard.
8. *2004 Folsom Distinguished Masters Thesis Award*, awarded to Ala' Qadi, \$500, 2003-2004. This thesis was reviewed by two experts outside of the department and selected as the best UNL thesis.
9. *2003-2004 Outstanding Master's Student Award* awarded to Ala' Qadi, \$100, 2004.
10. *Dohrmann Fellowship* awarded to Thomas Osugi, \$3,000, 2003-2004.
11. *Milton E. Mohr Fellowship* awarded to Ala' Qadi, \$1,000, 2003-2004.
12. *Mary and Elmer Dohrmann Fellowship* awarded to Rohini Krishnapura, \$1,000, 2003-2004.
13. *2003 CSE Outstanding Undergraduate Research Award* awarded to Nathan Wells, May 2003.
14. *2003 CSE Outstanding Undergraduate Senior Award* awarded to Nathan Wells, May 2003.
15. *IBM Linux Scholar* and IBM Thinkpad Notebook awarded to Xin Liu for his "IBM Linux Scholar Challenge" networking project, which was graded as one of the top 20 out of over 2,871 entries by students from 646 colleges and universities in over 68 countries around the world, March 2003.
16. *3rd place, 2003 ACM Student Research Competition* awarded to Nathan Wells at the at the ACM SIGCSE (Association of Computing Machinery Special Interest Group for Computer Science Education) conference.
17. *USA Today's Academic Second Team* awarded to Nathan Wells, which means that Nathan was in the top 40 of over 500 U.S. college students nominated, February 2003.
18. "Undergraduate Creative Activity and Research Experience (UCARE)," awarded to Nathan Wells, 6/1/02–5/31/03, \$2,400. Faculty Advisor: S. Goddard.
19. "Undergraduate Creative Activity and Research Experience (UCARE)," awarded to Thomas Osugi, 8/1/01–5/31/02, \$2,400. Faculty Advisor: S. Goddard.
20. "Undergraduate Creative Activity and Research Experience (UCARE)," awarded to Thomas Osugi, 8/1/00–5/31/01, \$2,000. Faculty Advisor: S. Goddard.

## Mentoring and Advising

Dr. Goddard has been a member of 120 committees for students that have graduated, including the advisor of the following 7 Ph.D. students, 28 M.S. or M.Eng. students and 6 B.S. students that have graduated:

1. Yu Bai, Ph.D. Thesis Advisor (CS), Stochastically Dominant Access Point Selection in Wireless Local Area Network, Fall 2018.
2. Haitao Zhu, Ph.D. Thesis Advisor (CS), Predictable Run-time Monitoring, Summer 2013.
3. Yunbo Wang, Ph.D. Thesis Advisor (CS), Probabilistic QoS Analysis in Wireless Sensor Networks, Spring 2012.
4. Ala' Qadi, Ph.D. Thesis Advisor (CE), Dynamic Processing Windows for Mobile Robotic Real-Time Systems, Spring 2008.
5. Hui Cheng, Ph.D. Thesis Advisor (CS), Energy-Efficient Scheduling Algorithms For Real-Time Systems, Fall 2006.
6. Shifeng Zhang, Ph.D. Thesis Advisor (CS), Architecture Specification and Implementation for Component-based Systems, Spring 2005.
7. Xin Liu, Ph.D. Thesis Advisor (CS), Dynamic Quality of Service in an Open System, Fall 2004.
8. Duc Luong, M.S. Thesis Advisor (CS), "Quality of Service (QoS) Provisioning For Divisible Load Scheduling in Clusters with Execution Time Inaccuracies," Summer 2008.
9. Robert Sprick, M.S. Thesis Advisor (CE), "The Role of Kalman Filtering in Indoor Localization and Tracking", Spring 2008.
10. Jianzhi Wang, M.S. Project Advisor (CS), "A Java-Based Interpolation Library," Summer 2006.
11. Saket Das, M.S. Thesis Advisor (CS), "Aspects of Designing a Smart Space for Assisted Living Applications," Fall 2005.
12. Zhirong Chen, M.S. Thesis Advisor (CS), "A Self-Calibrating Data Quality Control Library and the Development of a Serially Complete Dataset of Temperature and Precipitation for the United States," Summer 2005.
13. Bhagyashree Prabhakar, M.S. Thesis Advisor (CS), "A Value-Based Caching Framework For Data-Driven Distributed Systems," Summer 2005.
14. Ahalya Nathan, M.S. Project Advisor (CS), "A JSF framework for Dynamic Map Archiving," Summer 2005.
15. Kun Lu, M.S. Thesis Advisor (CS), A High Performance Spatial Interpolation Component for Spatial Decision Support Systems, Fall 2004.
16. Rohini Krishnapura, M.S. Thesis Advisor (CS), Real-Time Scheduling Algorithms for Dynamic I/O Energy Conservation, Fall 2004.
17. Xueming Wu, M.S. Thesis Advisor (CS), "Interchangeable GIS Components In Spatial Decision Support Systems," Summer 2004.
18. Qiwen Huang, M.S. Project Advisor (CS), "A Web-based Dynamic Survey System," Summer 2004.
19. Chengxiao Wang, M.S. Thesis Advisor (CS), "The Design, Implementation and Evaluation of APS: Adaptive Proportional Share Scheduling," Spring 2004.

20. Ala' Qadi, M.S. (CE) Thesis Advisor, "DVSST: Design and Implementation of a Dynamic Voltage Scaling Algorithm for Sporadic Tasks," Summer 2003.
21. Chad Michel, M.S. Thesis Advisor, "UNLDFS: A Highly Available Distributed File System," Spring 2003.
22. Stefan Newbold, M.S. Thesis Advisor, "Design and Implementation of a Distributed Control Language for a Campus Energy Management System," Spring 2003.
23. Chon-Ming Lee, M.S. Project Advisor, "Implementing Rate-Based Execution in the Real Time Kernel MicroC/OS-II," Fall 2002.
24. Gang Gu, M.S. Project Advisor, "An Enhanced Newhall Simulation Model for a Distributed Decision Support System," Fall 2002.
25. Jing Fu, M.S. Project Advisor, "Kenexa Online Survey Gathering System (KOSGS)," Summer 2002.
26. Fangui Ma, M.S. Project Advisor, "A Web-Enabled SPI Program with Improved Spatial and Temporal Resolution," Spring 2002.
27. David DeWester, M.S. Project Advisor, "Using Web-Based Tools to Implement Mastery Learning Pedagogy: Homework Management Software for Teaching Bivariate Statistical Computations," Fall 2001.
28. Seong-No Yoon, M.S. Project Advisor, "An Execution Rate Analysis Tool for Processing Graph method Applications," Fall 2001.
29. Weiguo He, M.Eng. Project Advisor, "Firewall Load Balancing," Spring 2001.
30. Jian Tang, M.Eng. Project Advisor, "AAUDE Web-Interface System," Spring 2001.
31. Lingyun Wang, M.Eng. Project Advisor, "AAUDE Web-Interface System," Spring 2001.
32. Shirong Yang, M.Eng. Project Advisor, "Firewall Load Balancing," Spring 2001.
33. Caina Wei, M.S. Project Advisor, "A QoS Assurance Mechanism for Cluster-Based Web Servers," Fall 2000.
34. Xiaohong Yuan, M.S. Project Advisor, "Design and Implementation of A Web Based Course Management System," Fall 2000.
35. Ingyu Lee, M.S. Project Advisor, "Tools for Inherent Latency Analysis in Processing Graph Method Applications." Summer 2000.
36. Derrick Stolee, B.S. UCARE and Honors Thesis Advisor, "A Multi-dimensional Spatial Cache for Distributed Decision Support Systems," Spring 2007.
37. Nathan Wells, B.S. UCARE and Honors Thesis Advisor, "The Development of the Self-Calibrating Palmer Drought Severity Index," July 2002 with May 2003 graduation.
38. Tom Osugi, B.S. UCARE and REU Project Advisor, "Firewall Load Balancing and Remote Data Collection for a Distributed Geospatial Decision Support System," Spring 2003.
39. Matthew Evans, B.S. Senior Thesis Supervisor, "FTFS: Fault Tolerant Distributed File System," Spring 2000.
40. Mark Smith, B.S. Senior Thesis Supervisor, "Scalability of a Two-User Whiteboard Application in Java to Multiple Users Using Multithreaded Processes and Synchronous Socket Communication," Spring 2000.

41. Tyler Woods, B.S. Senior Thesis Supervisor, “A Hardware/Software Comparative Implementation,” Fall 1999.

**Current** (Advisor or Committee Member)

1. Guangdong Liu, Ph.D. Thesis Committee Member (CS), Scheduling Algorithms for Real-Time Systems, Fall 2012–Present.

**Spring 2015 Graduation**

2. Taesic Kim, Ph.D. Thesis Committee Member (CE), Model-Based Condition Monitoring and Power Management for Rechargeable Electrochemical Batteries, Spring 2015.

**Summer 2014 Graduation**

3. Leping Wang, M.S. Thesis Committee Member (CS), Power Management in the Cluster System, Summer 2013.

**Fall 2013 Graduation**

4. Xin Dong, Ph.D. Thesis Committee Chair (CE), Energy Efficient and Robust Communication in Wireless Underground Sensor Networks for Autonomous Irrigation Management, Fall 2013.

**Summer 2013 Graduation**

5. Haitao Zhu, Ph.D. Thesis Advisor (CS), Predictable Run-time Monitoring, Summer 2013.

**Spring 2013 Graduation**

6. Hao Huang, M.S. Thesis Committee Member (CE), Time Synchronization in Low-duty-cycle Wireless Networks, Spring 2013.

**Summer 2012 Graduation**

7. Amy Lehman, Ph.D. Thesis Committee Member (ME), “Miniature *In Vivo* Robots for Minimally Invasive Surgery”, Summer 2012.

**Spring 2012 Graduation**

8. Yunbo Wang, Ph.D. Thesis Advisor (CS), “Probabilistic QoS Analysis in Wireless Sensor Networks”, Spring 2012.

**Summer 2011 Graduation**

9. Anwar Mamat, Ph.D. Thesis Committee Member (CS), “Real-Time Divisible Load Scheduling for Cluster Computing”, Summer 2011.

**Fall 2010 Graduation**

10. Jeff Hawks Ph.D. Thesis Committee Member (ME), “Improved Mobile Wireless in vivo Surgical Robots: Modular Design, Experimental Results, and Analysis,” Fall 2010.

**Fall 2009 Graduation**



11. Jason Dumpert, Ph.D. Thesis Committee Member (ME), "Towards Supervised Autonomous Task Completion Using an in vivo Surgical Robot," Fall 2009.

#### **Summer 2009 Graduation**

12. Ian Cottingham, M.S. Thesis Committee Member (CS), "A Service Oriented Architecture For Data-Driven Decision Support Systems," Summer 2009.

#### **Spring 2009 Graduation**

13. Renshi Bao, M.S. Thesis Committee Member (CS), "Study Of Load Balancing Across Heterogenous Clusters," Spring 2009.

#### **Summer 2008 Graduation**

14. Duc Luong, M.S. Thesis Advisor (CS), "Quality of Service (QoS) Provisioning For Divisible Load Scheduling in Clusters with Execution Time Inaccuracies," Summer 2008.
15. Ying Ding, M.S. Thesis Committee Member (CS), "Intelligent Data Management in Data Grids," Summer 2008.

#### **Spring 2008 Graduation**

16. Ala' Qadi, Ph.D. Thesis Advisor (CE), "Dynamic Processing Windows for Mobile Robotic Real-Time Systems," Spring 2008.
17. Robert Sprick, M.S. Thesis Advisor (CE), "The Role of Kalman Filtering in Indoor Localization and Tracking," Spring 2008.

#### **Spring 2007 Graduation**

18. Jiangyang Huang, Ph.D. Thesis Committee Member (ME), "Localization and Follow-the-Leader Control of a Heterogeneous Group of Mobile Robots," Spring 2007.
19. Xin Li, Ph.D. Thesis Committee Member (CS), "Improving Multi-Agent Coalition Formation in Complex Environments," Spring 2007.
20. Lianlin Zhao, M.S. Thesis Committee Member (EE), "An Ultra-Wildband Localization System," Spring 2007.
21. Derrick Stolee, B.S. Honors Thesis Advisor (CS), "A Multi-deminsional Spatial Cache for Distributed Decision Support Systems," Spring 2007.

#### **Fall 2006 Graduation**

22. Hui Cheng, Ph.D. Thesis Advisor (CS), "Energy-Efficient Scheduling Algorithms For Real-Time Systems," Fall 2006.

#### **Summer 2006 Graduation**

23. Haitham Hamza, Ph.D. Thesis Committee Member (CS), "Nonblocking WDM Optical Switching Networks Design And Analysis Of New Classes," Summer 2006.
24. Liying Jiang, Ph.D. Thesis Committee Member (CS), "New Data Mining Models Based On Formal Concept Analysis And Probability Logic," Summer 2006.

25. Dong Li, Ph.D. Thesis Committee Member (CS), "High Performance Energy Efficient File Storage System," Summer 2006.
26. Jianzhi Wang, M.S. Project Advisor (CS), "A Java-Based Interpolation Library," Summer 2006.
27. Charles Gleason, M.S. Thesis Committee Member (EE), "Tracking Human Movement in an Indoor Environment Using Mobility Profiles," Summer 2006.
28. Eric Psota, M.S. Thesis Committee Member (EE), Stereoscopic Wound Imaging, Summer 2006.

### **Spring 2006 Graduation**

29. Ibrahim Haddad, Ph.D. External Examiner (CS), "The HAS Architecture: A Highly Available and Scalable Cluster Architecture for Web Servers," Concordia University, Montreal Canada, Spring 2006.

### **Fall 2005 Graduation**

30. Yifeng Zhu, Ph.D. Thesis Committee Member (CS), "Cluster-based Storage Systems with High Scalability," Fall 2005.
31. Mengke Li, Ph.D. Thesis Committee Member (CS), "Cost Efficient Design of Waveband Switching in Optical Wavelength-Division Multiplexed Networks," Fall 2005.
32. Saket Das, M.S. Thesis Advisor (CS), "Aspects of Designing a Smart Space for Assisted Living Applications," Fall 2005.
33. Guang Zhang, M.S. Thesis Committee Member (ME), "GPS and Odometry Data Fusion Application in Mobile Robot Navigation," Fall 2005.

### **Summer 2005 Graduation**

34. Zhirong Chen, M.S. Thesis Advisor (CS), "A Self-Calibrating Data Quality Control Library and the Development of a Serially Complete Dataset of Temperature and Precipitation for the United States," Summer 2005.
35. Bhagyashree Prabhakar, M.S. Thesis Advisor (CS), "A Value-Based Caching Framework For Data-Driven Distributed Systems," Summer 2005.
36. Ahalya Nathan, M.S. Project Advisor, "A JSF framework for Dynamic Map Archiving," Summer 2005.
37. Wang Yao, Ph.D. Thesis Committee Member (CS), "Traffic Grooming in Next-Generation Optical WDM Mesh Networks," Summer 2005.
38. Mulyadi Oey, M.S. Thesis Committee Member (CS), "Garbage Collection in the Presence of Remote Objects: An Empirical Study," Summer 2005.

### **Spring 2005 Graduation**

39. Shifeng Zhang, Ph.D. Thesis Advisor (CS), Architecture Specification and Implementation for Component-based Systems, Spring 2005.
40. Anagh Lal, M.S. Thesis Committee Member (CS), Neighborhood Interchangeability for Non-Binary CSPs and Applications to Databases, Spring 2005.
41. Joel Gompert, M.S. Thesis Committee Member (CS), IndSet: A Decomposition Technique for CSPs Using Maximal Independent Sets and Its Integration with Local Search, Spring 2005.

### **Fall 2004 Graduation**

42. Xin Liu, Ph.D. Thesis Advisor (CS), Dynamic Quality of Service in an Open System, Fall 2004.
43. Kun Lu, M.S. Thesis Advisor (CS), A High Performance Spatial Interpolation Component for Spatial Decision Support Systems, Fall 2004.
44. Rohini Krishnapura, M.S. Thesis Advisor, Real-Time Scheduling Algorithms for Dynamic I/O Energy Conservation, Fall 2004.
45. Dan Li, Ph.D. Thesis Committee Member (CS), Temporal Data Mining Methodologies in a Geo-spatial Decision Support System, Fall 2004.

### **Summer 2004 Graduation**

46. Xueming Wu, M.S. Thesis Advisor, "Interchangeable GIS Components In Spatial Decision Support Systems," Summer 2004.
47. Qiwen Huang, M.S. Project Advisor, "A Web-based Dynamic Survey System," Summer 2004.
48. Xiao Qin, Ph.D. Thesis Committee Member (CS), "Dynamic I/O-Aware Load Balancing and Resource Management for Clusters," Summer 2004.
49. Jameela Al-Jaroodi, Ph.D. Thesis Committee Member (CS) and Reader, "Distributed Systems Middleware A Framework for Parallel and Distributed Computing on Heterogeneous Systems," Summer 2004.
50. Nader Mohamed, Ph.D. Thesis Committee Member (CS) and Reader, "Design and Analysis of a Communication Middleware for Multiple Network Interfaces," Summer 2004.
51. Jedidiah Pedersen, M.S. Thesis Committee Member, "Modular Mobile Robotics Platform Design And Application," Summer 2004.

### **Spring 2004 Graduation**

52. Chengxiao Wang, M.S. Thesis Advisor, "The Design, Implementation and Evaluation of APS: Adaptive Proportional Share Scheduling," Spring 2004.
53. Madeline Hardojo, M.S. Thesis Committee Member, "An Empirical Study of Profiling Strategies for Released Software And Their Impact on Testing Activities," Spring 2004.

### **Summer 2003 Graduation**

54. Ala' Qadi, M.S. (CE) Thesis Advisor, "DVSST: Design and Implementation of a Dynamic Voltage Scaling Algorithm for Sporadic Tasks," Summer 2003.
55. Yuanyuan Lu, M.S. Project Committee Member, "The Planting Date Guide: A Decision-Support Tool for Agriculture," Summer 2003.
56. Satya Pradeep Kanduri, M.S. Thesis Committee Member, "Anomalies as Precursors of Field Failures," Summer 2003.
57. Siva Mohan Sunkavalli, M.S. Thesis Committee Member, "Scatternet Formation in Bluetooth Networks," Summer 2003.

### **Spring 2003 Graduation**

58. Chad Michel, M.S. Thesis Advisor, "UNLDFS: A Highly Available Distributed File System," Spring 2003.

59. Stefan Newbold, M.S. Thesis Advisor, "Design and Implementation of a Distributed Control Language for a Campus Energy Management System," Spring 2003.
60. Rongxi Yan, M.S. Project Committee Member, "Vineyard Site Selection Tool: A Web-Based GIS System," Spring 2003.
61. Zhong Xu, M.S. Project Committee Member, "Improved Exposure Analysis System of Nebraska," Spring 2003.
62. Ajay Kumar Todimala, M.S. Thesis Committee Member, "Fault-Tolerance in Optical WDM Mesh Networks," Spring 2003.
63. Kefei Wang, M.S. Thesis Committee Member, "Algorithms for Pattern Discovery in Large Databases," Spring 2003.
64. Nathan Wells, B.S. UCARE and Honors Thesis Advisor, "The Development of the Self-Calibrating Palmer Drought Severity Index," July 2002 with May 2003 graduation.
65. Tom Osugi, B.S. UCARE and REU Project Advisor, Firewall Load Balancing and Remote Data Collection for a Distributed Geospatial Decision Support System, Spring 2003.

#### **Fall 2002 Graduation**

66. Chon-Ming Lee, M.S. Project Advisor, "Implementing Rate-Based Execution in the Real Time Kernel MicroC/OS-II," Fall 2002.
67. Gang Gu, M.S. Project Advisor, "An Enhanced Newhall Simulation Model for a Distributed Decision Support System," Fall 2002.
68. Praveen Kallakuri, M.S. Thesis Committee, "Impact of Test Suite Granularity on the Cost-Effectiveness of Regression Testing," Fall 2002.

#### **Summer 2002 Graduation**

69. Jing Fu, M.S. Project Advisor, "Kenexa Online Survey Gathering System (KOSGS)," Summer 2002.
70. Tsegaye Tadesse, Ph.D. Thesis Committee Member (Agronomy), "Identifying Drought and its Associations with Climatic and Oceanic Parameters Using Data Mining Techniques," Summer 2002.
71. Vishal Khokha, M.S. Project Committee Member, "Automating Data Collection and Rules Generation for a Data Mining Application," Summer 2002.
72. Aditya Ivaturi, M.S. Project Committee Member, "Transcoding Proxy for Wireless Web," Summer 2002.

#### **Spring 2002 Graduation**

73. Fangrui Ma, M.S. Project Advisor, "A Web-Enabled SPI Program with Improved Spatial and Temporal Resolution," Spring 2002.
74. Lu Shen, M.S. Thesis Committee Member, "Signaling Schemes for Distributed Connection Management in GMPLS-based WDM Optical Mesh Networks," Spring 2002.
75. Sree Rama Nomula, M.S. Project Committee Member, "ARTHUR: A Routing and Wavelength Assignment Tool for Optical Networks," Spring 2001.

### **Fall 2001 Graduation**

76. David DeWester, M.S. Project Advisor, "Using Web-Based Tools to Implement Mastery Learning Pedagogy: Homework Management Software for Teaching Bivariate Statistical Computations," Fall 2001.
77. Seong-No Yoon, M.S. Project Advisor, "An Execution Rate Analysis Tool for Processing Graph method Applications," Fall 2001.
78. Mir Ali, M.S. Project Committee Member, "Static vs. Dynamic Fault Tolerant Routing In Optical WDM Networks," Fall 2001.
79. The Nguyen, M.S. Project Committee Member, "New Approach for Discovering Association Rules" Fall 2001.
80. Yavuz Fatih Yavuz, M.S. Project Committee Member, "Discovering Association Rules Using a Relational DBMS" Fall 2001.

### **Summer 2001 Graduation**

81. Xiaolei Cai, M.S. Thesis Committee Member, "Verification of Control Flow in Register Transfer Level VHDL Designs," Summer 2001.
82. Ahmed Mahdy, M.S. Project Committee Member, "Microcontroller-Based Air-Conditioner Controller with Remote Control," Summer 2001.
83. Sree Rama Nomula, M.S. Project Committee Member, "ARTHUR: A Routing and Wavelength Assignment Tool for Optical Networks," Summer 2001.
84. Shu Zhang, M.S. Thesis Committee Member, "Dynamic Traffic Grooming Algorithms over Reconfigurable SONET/WDM Networks," Summer 2001.

### **Spring 2001 Graduation**

85. Ali Hasan Alsaffar, Ph.D. Thesis Committee Member Reading Member, "Concept Based Retrieval and Information Filtering," Spring 2001.
86. Weiguo He, M.Eng. Project Advisor, Firewall Load Balancing, Spring 2001.
87. Jian Tang, M.Eng. Project Advisor, AAUDE Web-Interface System, Spring 2001.
88. Lingyun Wang, M.Eng. Project Advisor, AAUDE Web-Interface System, Spring 2001.
89. Shirong Yang, M.Eng. Project Advisor, Firewall Load Balancing, Spring 2001.

### **Fall 2000 Graduation**

90. Caina Wei, M.S. Project Advisor, "A QoS Assurance Mechanism for Cluster-Based Web Servers," Fall 2000.
91. Xiaohong Yuan, M.S. Project Advisor, "Design and Implementation of A Web Based Course Management System," Fall 2000.
92. Elie Sawma, M.S. Project Committee Member, "Connection Management in WDM Networks," Fall 2000.

### **Summer 2000 Graduation**

93. Maher Ali, Ph.D. Thesis Committee Member, "Power-Efficient Design and Management of Wavelength-Routed Optical Networks," Summer 2000.
94. Ingyu Lee, M.S. Project Advisor, "Tools for Inherent Latency Analysis in Processing Graph Method Applications." Summer 2000.
95. Jason L. Schlabach, M.S. Thesis Committee Member, "Using Organizational Knowledge to Automate Software Development," Summer 2000.
96. Tung Le, M.S. Thesis Committee Member, "An XML Approach to Internet Information Retrieval," Summer 2000.
97. Srinath Yaragorla, M.S. Thesis Committee Member, "Sparse Regeneration in a Translucent Wide Area Optical Network," Summer 2000.

### **Spring 2000 Graduation**

98. Matthew Evans, B.S. Senior Thesis Supervisor, "FTFS: Fault Tolerant Distributed File System," Spring 2000.
99. Mark Smith, B.S. Senior Thesis Supervisor, "Scalability of a Two-User Whiteboard Application in Java to Multiple Users Using Multithreaded Processes and Synchronous Socket Communication," Spring 2000.
100. Xingchun Chen, M.S. Project Committee Member, "IP Multicast Experiments in a Campus Network," Spring 2000.
101. Mingqin Liu, M.S. Thesis Committee Member, "Accurate Development of Agroecozones," Spring 2000.
102. Ashok Ramakrishnan, M.S. Thesis Committee Member, "Virtual Topology Generation and Reconfiguration of Wavelength-Routed Optical WDM Networks," Spring 2000.
103. Gautam Rao, M.S. Project Committee Member, "Application Level Differentiated Services for Web Servers," Spring 2000.
104. Chandrakant Yemparala, M.S. Project Committee Member, "Integrated Simulation Environment for SIMON," Spring 2000.
105. Ling Zhong, M.S. Thesis Committee Member, "Optimization of Amplifier Placements in Switch-Based Optical Networks," Spring 2000.

### **Fall 1999 Graduation**

106. Tyler Woods, B.S. Senior Thesis Supervisor, "A Hardware/Software Comparative Implementation," Fall 1999.
107. Qingyuan Lou, M.S. Project Committee Member, "Sparse Multicasting Simulator for Optical Networks," Fall 1999.
108. Amartya Sarkar, M.S. Thesis Committee Member, "Use of RDF/XML in Information Retrieval from Catalogs on the Web," Fall 1999.
109. Lei Zhang, M.S. Thesis Committee Member, "Transformation of ARC/INFO TIN Data into Multiple Linear Programming Query/Geographic Information System (MLPQ/GIS) Database Systems," Fall 1999.

### **Summer 1999 Graduation**

110. Huimin Diao, M.S. Thesis Committee Member, "Tree Code Applications to Lossless Image Compression," Summer 1999.
111. Xuehong Gan, M.S. Project Committee Member, "A Prototype of a Web Server Clustering System," Summer 1999.
112. Yili Wang, M.S. Thesis Committee Member, "Design & Implementation of an XML Based Information Retrieval System," Summer 1999.

### **Spring 1999 Graduation**

113. Yongquin Hui, M.S. Thesis Committee Member, "The Impact of Non-Exponential Repair Distributions on NMR System Dependability," Spring 1999.
114. Jong-Tae Lee, M.S. Thesis Committee Member, "Wavelength Converter Placement in Optical Networks," Spring 1999.
115. Fang Liu, M.S. Project Committee Member, "Object-Oriented Design and Implementation for Remote Database Development Using JDBC," Spring 1999.
116. Russell P. Mandel, M.S. Project Committee Member, "Database Conversion on the BASE24 Product," Spring 1999.
117. Alexandr Yekushev, M.S. Thesis Committee Member, "Techniques in Small Group Factorization," Spring 1999.
118. Hong Yuan, M.S. Project Committee Member, "Internet Security Using Symmetric Cryptographic System," Spring 1999.
119. Travis Fisher, B.S. Senior Thesis Committee Member, "Probabilistic Checks for the Equivalence of Mathematical Expressions," Spring 1999.

### **Fall 1998 Graduation**

120. Mirghani Mohamed, M.S. Project Committee Member, Fall 1998.

### **Professional Memberships and Affiliations**

1. UNL Graduate Faculty (Fellow)
2. Institute of Electrical and Electronics Engineers (IEEE), Senior Member
3. Association for Computing Machinery (ACM)
4. American Association for the Advancement of Science (AAAS)
5. American Society for Engineering Education (ASEE)
6. IEEE Computer Society
7. IEEE Communications Society
8. IEEE Technical Committee on Real-Time Systems

### **Professional Service**

1. Member, IEEE Technical Committee on Real-Time Systems, 1996–present.

2. Associate Editor, ACM Transactions on Cyber-Physical Systems (TCPS), 2015–present.
3. Member, LITES Editorial Board, Leibniz Transactions on Embedded Systems (LITES), Cyber-Physical Systems Area Editor, 2012–present.
4. Member, Steering Committee for IEEE International Conference on Embedded and Real-Time Computing Systems and Applications, 2012–present.
5. Member, Organization Committee for the 31st Euromicro Conference on Real-Time Systems, Stuttgart, Germany, 2019.
6. Member, Technical Program Committee for the 31st Euromicro Conference on Real-Time Systems, Stuttgart, Germany, 2019.
7. Member, Technical Program Committee for the 29th Euromicro Conference on Real-Time Systems, Barcelona, Spain, 2018.
8. Member, Technical Program Committee for the 30th Euromicro Conference on Real-Time, Dubrovnik, Croatia, 2017.
9. Member, Technical Program Committee for the IEEE Real-Time Systems Symposium, Paris, France, 2017.
10. Chair, IEEE Technical Committee on Real-Time Systems, March, 2013–2016.
11. Vice-Chair, IEEE Technical Committee on Real-Time Systems, March, 2011–2012.
12. Member, Executive Committee of IEEE Technical Committee on Real-Time Systems, 2007–2018.
13. Member, Advisory Council for the Computer Science and Information Systems Department at the University of Nebraska at Kearney, 2009–2015.  
item Member, AIM-Lincoln Advisory Council, AIM Institute, Lincoln, NE, 2012–2014.
14. Chair, Technical Program Committee for the 27th Euromicro Conference on Real-Time Systems, Lund, Sweden, 2015.
15. Member, Technical Program Committee for the 21st IEEE Real-Time and Embedded Technology and Applications Symposium, Seattle, Washington, 2015.
16. Member, Technical Program Committee for the IEEE Real-Time Systems Symposium, Rome, Italy, 2014.
17. Member, Technical Program Committee for the 14th International Conference on Runtime Verification, Toronto, Canada, 2014.
18. Publicity Chair for the 19th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2013), Philadelphia, Pennsylvania, 2013.
19. Member, Technical Program Committee for the ACM 29th Symposium On Applied Computing–Special Track on Operating Systems (OS), Gyeongju, Korea, 2014.
20. Member, Planning Committee for the 2013 Nebraska Software Builders Challenge, Lincoln, NE, 2013.



21. Co-chair, Technical Program Committee, Real-time Systems Track for 2012 International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA) 2012, Seoul, Korea, 2012.
22. Member, Steering Committee for CPSWeek 2011, Chicago, Illinois, 2011.
23. Member, AIM Lincoln Futures Task Force, Lincoln, Nebraska, 2010.
24. Member, Technical Program Committee for the IEEE International Conference on Service-Oriented Computing and Applications (SOCA 2013), Kauai, Hawaii, 2013.
25. Member, Technical Program Committee for the 8th International Symposium on Embedded Technology, Daegu, Korea, May 2013.
26. Member, Technical Program Committee for the 24th Euromicro Conference on Real-Time Systems, Pisa, Italy, 2012.
27. Member, Technical Program Committee for the 18th IEEE Real-Time and Embedded Technology and Applications Symposium, Beijing, China, 2012.
28. Member, Technical Program Committee for the IEEE 15th International Symposium on Object/Component/Service Oriented Real-Time Distributed Computing (ISORC), Shenzhen, China, 2012.
29. Member, Technical Program Committee for the 27th Annual ACM Symposium on Applied Computing (SAC 2012), Trento, Italy, 2012.
30. Member, Technical Program Committee for the IEEE International Conference on Service-Oriented Computing and Applications (SOCA 2012), Taipei, Taiwan, 2012.
31. Member, Technical Program Committee for the 32nd IEEE Real-Time Systems Symposium, Vienna, Austria, 2011.
32. Member, Technical Program Committee for 1st International Workshop on Large-Scale Cyber-Physical Systems (LCPS 2011), Irvine, CA, 2011.
33. Member, Technical Program Committee for the 18th International Conference on Real-Time and Network Systems (RTNS 2011), Nantes, France, 2011.
34. Member, Technical Program Committee for the 23rd Euromicro Conference on Real-Time Systems, Porto, Portugal, 2011.
35. Member, Technical Program Committee for the 17th IEEE Real-Time and Embedded Technology and Applications Symposium, Chicago, Illinois, 2011.
36. Member, Steering Committee for the First International Workshop on Cyber-Physical Networking Systems (CPNS 2011), Shanghai, China, 2011.
37. Member, Technical Program Committee for the Workshop on Architectures Cyber-Physical Systems, held in conjunction with the 17th IEEE Real-Time and Embedded Technology and Applications Symposium Chicago, Illinois, 2011.
38. Member, Technical Program Committee for the 26th Annual ACM Symposium on Applied Computing (SAC 2011), TaiChung, Taiwan, 2011.

39. Member, Technical Program Committee for the 31st IEEE Real-Time Systems Symposium, San Diego, California, USA, 2010.
40. Member, Technical Program Committee for the 18th International Conference on Real-Time and Network Systems (RTNS 2010), Toulouse, France, 2010.
41. Member, Technical Program Committee for OSPERT 2010: Workshop on Operating Systems Platforms for Embedded Real-Time applications, held in conjunction with the 22nd Euromicro Conference on Real-Time Systems, Brussels, Belgium, 2010.
42. Organizer and Intellectual Leader of Hybrid, Embedded, and Real-Time Systems Group of NSF funded workshop entitled, Future Directions of Computer System Research in 2010, March 2010.
43. Member, Technical Program Committee for the 22nd Euromicro Conference on Real-Time Systems, Brussels, Belgium, 2010.
44. Member, Technical Program Committee for OSPERT 2010: Workshop on Operating Systems Platforms for Embedded Real-Time applications, held in conjunction with the 22nd Euromicro Conference on Real-Time Systems, Brussels, Belgium, 2010.
45. Member, Technical Program Committee for the 16th IEEE Real-Time and Embedded Technology and Applications Symposium, Stockholm, Sweden, 2010.
46. Publicity Chair for the First IEEE International Conference on Cyber-Physical Systems, Washington, Stockholm, Sweden, 2010.
47. Member, Technical Program Committee for the 13th IEEE International Symposium on Object/component/service oriented Real-time distributed Computing, Carmona, Spain, 2010.
48. Member, Technical Program Committee for the Subtrack on Real-Time Systems at Design Automation and Testing in Europe (DATE 10), Dresden, Germany, 2010.
49. General Chair for the 30th IEEE Real-Time Systems Symposium, Washington, D.C., 2009.
50. Member, Technical Program Committee for the 21st Euromicro Conference on Real-Time Systems, Dublin, Ireland, 2009.
51. Member, Technical Program Committee for the Second International Workshop on Cyber-Physical Systems, Montreal, Canada, 2009.
52. Member, Technical Program Committee for the 12th IEEE International Symposium on Object/component/service oriented Real-time distributed Computing, Tokyo, Japan, 2009.
53. Member, Technical Program Committee for the 15th IEEE Real-Time and Embedded Technology and Applications Symposium, San Francisco, CA, 2009.
54. Chair, Technical Program Committee for the for the 29th IEEE Real-Time Systems Symposium, Barcelona, Spain, 2008.
55. Co-Chair, Technical Program Committee for the Real-time and Dependable Systems – Principles and Practice topic of the Embedded Software Track of Design, Automation and Test in Europe Conference (DATE 08), Munich, Germany, 2008.

56. Finance Chair for the 14th IEEE Real-Time and Embedded Technology and Applications Symposium, St. Louis, Missouri, 2008.
57. Member, Technical Program Committee for the 20th Euromicro Conference on Real-Time Systems, Prague, Czech Republic, 2008.
58. Member, Technical Program Committee for the 11th IEEE International Symposium on Object/component/service oriented Real-time distributed Computing, Orlando, Florida, 2008.
59. Member, Technical Program Committee for the First International Workshop on Cyber-Physical Systems, Beijing, China, 2008.
60. Member, Technical Program Committee for the 28th IEEE Real-Time Systems Symposium, Tucson, Arizona, 2007.
61. General Co-Chair for the 13th IEEE Real-Time and Embedded Technology and Applications Symposium, Bellevue, Washington, 2007.
62. Member, Technical Program Committee for the 19th Euromicro Conference on Real-Time Systems, Pisa, Italy, 2007.
63. Member, Technical Program Committee for the IEEE International Symposium on Object-oriented Real-time Computing 2007, Santorini, Greece, 2007
64. Co-Chair, Technical Program Committee for OSPERT 2007: 3rd Workshop on Operating Systems Platforms for Embedded Real-Time applications, held in conjunction with the 19th Euromicro Conference on Real-Time Systems, Pisa, Italy, 2007.
65. Member, Program Committee for the National Workshop on Composable and Systems Technology for High Confidence Cyber-Physical Systems (CST-HCCPS), 2007. The workshop was designed to support the High Confidence Software and Systems (HCSS) Coordinating Group of the Networking and Information Technology Research and Development (NITR&D) Sub-committee, National Science and Technology Council, Executive Office of the President.
66. Member, Program Committee for the National Workshop on High Confidence Software Platforms for Cyber Physical Systems (HCSP-CPS), 2006. Invited by Drs. Doug Schmidt (Vanderbilt University) and Raj Rajkumar (CMU), Co-Chairs of HCSP-CPS and Dr. Helen Gill (NSF) and Brad Martin (Co-Chairs of the High Confidence Software and Systems (HCSS) Coordinating Group (CG) of the Networking and Information Technology Research and Development (NITRD) Program.
67. Invited Participant of the Planning Meeting for an NSF Program on "Cyber-Physical Systems," July 27-28, 2006. The meeting was by invitation only and was limited to 25 attendees. Invited by Dr. Raj Rajkumar (CMU) and Dr. Helen Gill (NSF).
68. Invited Participant of the NSF-sponsored Workshop on Cyber-Physical Systems (CPS), October 16-17, 2006, in Austin, Texas. Invited by Drs. Raj Rajkumar and Insup Lee, Program Co-Chairs.
69. Plenary Panel Moderator for the NSF-sponsored National Workshop on High-Confidence Software Platforms for Cyber-Physical Systems (HCSP-CPS), November 30, 2006. Panel members: Dr. Ken Birman (Cornell), Dr. Edward Lee (Berkeley), Dr. Janos Sztipanovits (Vanderbilt), Dr. Joe Loyall (BBN), and Dr. Brian Bershad (University of Washington).

70. Member, Technical Program Committee for the 27th IEEE Real-Time Systems Symposium, Rio de Janeiro, Brazil, 2006.
71. Member, Technical Program Committee for the 18th Euromicro Conference on Real-Time Systems, Dresden, Germany, 2006.
72. Member, Technical Program Committee for OSPERT 2006: 2nd Workshop on Operating Systems Platforms for Embedded Real-Time applications, held in conjunction with the 18th Euromicro Conference on Real-Time Systems, Dresden, Germany, 2006.
73. Member, Technical Program Committee for the Subtrack on Real-Time and (Networked) Embedded Systems at the 11th IEEE International Conference on Emerging Technologies and Factory Automation, Prague, Czech Republic, 2006.
74. Member, Program Committee for the National Workshop on High Confidence Software Platforms for the Cyber Physical Systems (HCSP-CPS), 2006.
75. Member, Technical Program Committee, for NTeRTAIn 2006: First Workshop on New Trends in Real-Time Artificial Intelligence (NTeRTAIn) held in conjunction with the 17th European Conference on Artificial Intelligence (ECAI), Riva del Garda, Italy, 2006.
76. Co-Chair, Technical Program Committee for the 12th IEEE Real-Time and Embedded Technology and Applications Symposium, San Jose, California, 2006.
77. Member, Technical Program Committee for the Subtrack on Real-Time Systems at Design Automation and Testing in Europe (DATE 06), Munich, Germany, 2006.
78. Member, Technical Program Committee for the 26th IEEE Real-Time Systems Symposium, Miami, Florida, 2005.
79. Member, Technical Program Committee for the Sensor Networks track of the 26th IEEE Real-time Systems Symposium, Miami, Florida, 2005.
80. Member, Technical Program Committee for PARC '05, Second Int'l Workshop on Power-Aware Real-Time Computing, 2005.
81. Chair, Special Session (Localization in Wireless Sensor Networks) for the IEEE Electro/Information Technology Conference, Lincoln, Nebraska, May 2005.
82. Member, Technical Program Committee, OSPERT 2005: 1st workshop on Operating Systems Platforms for Embedded Real-Time applications, held in conjunction with the 17th Euromicro Conference on Real-Time Systems, Palma de Mallorca, Spain, 2005.
83. Member, Technical Program Committee, 17th Euromicro Conference on Real-Time Systems, July 2005, Palma de Mallorca, Spain.
84. Member, Technical Program Committee, ITCC 2005 Software Engineering Track, held in conjunction with ITCC 2005, International Conference on Information Technology (Sponsored by IEEE Computer Society), April, 2005, Las Vegas, Nevada.
85. Member, Technical Program Committee for the 11th IEEE Real-Time and Embedded Technology and Applications Symposium, San Francisco, California, 2005.

86. Member, Technical Program Committee for the 25th IEEE Real-Time Systems Symposium, Lisbon, Portugal, 2004.
87. Member, Technical Program Committee for PARC '04, First Int'l Workshop on Power-Aware Real-Time Computing, Pisa, Italy, 2004.
88. Chair, Work-In-Progress Technical Program Committee, 16th Euromicro Conference on Real-Time Systems, Catania, Italy, 2004.
89. Member, Conference Organization Committee, 16th Euromicro Conference on Real-Time Systems, Catania, Italy, 2004.
90. Member, Technical Program Committee, 16th Euromicro Conference on Real-Time Systems, Catania, Italy, 2004.
91. Member, Technical Program Committee, IEEE Real-Time and Embedded Technology and Applications Symposium, Toronto, Canada, 2004.
92. Member, Work-in-Progress Technical Program Committee, IEEE Real-Time Systems Symposium, Cancun, Mexico, 2003.
93. Member, Technical Program Committee, IEEE Real-Time Systems Symposium, Austin, Texas, 2002.
94. Member, Technical Program Committee, IEEE High Assurance Systems Engineering Symposium, 2001.
95. Member, Technical Program Committee, Sixth IEEE Symposium on Computers and Communications, 2001.
96. Member, Technical Program Committee, IEEE Real-Time Systems Symposium, Orlando, Florida, 2000.
97. Session Chair, Session VI: Applications of Real-Time Systems Technology for the IEEE Real-Time Systems Symposium, Orlando, Florida, 2000.
98. Member, Technical Program Committee, IEEE High Assurance Systems Engineering Symposium, Albuquerque, New Mexico, 2000.
99. Session Chair, Session VII: Development and Testing Tools and System Architectures, IEEE High Assurance Systems Engineering Symposium, Albuquerque, New Mexico, 2000.
100. Member, Technical Program Committee IEEE Real-Time Technology and Applications Symposium, Vancouver, British Columbia, Canada, 1999.
101. Chair, Work-In-Progress Technical Program Committee, IEEE Real-Time Systems Symposium, Madrid, Spain, 1998.
102. Member, Conference Organization Committee, IEEE Real-Time Systems Symposium, Madrid, Spain, 1998.
103. Guest Editor, *ACM Transactions on Embedded Computing Systems*, Special Issue, 2006–2007.
104. Reviewer, *ACM Transactions on Embedded Computing Systems*, 2006, 2008, 2009, 2011.

105. Reviewer, *International Journal of Embedded Systems*, 2006.
106. Reviewer, *Real-Time Systems*, 2005-2013.
107. Reviewer, *International Journal of Climatology*, 2005, 2006, 2008.
108. Reviewer, *Journal of Climate*, 2005-2012.
109. Reviewer, *Journal of Systems Architecture*, 2006.
110. Reviewer, *Information & Software Technology*, 2005.
111. Reviewer, *Journal of Geophysical Research-Atmospheres*, 2005.
112. Reviewer, *Journal of Computer and System Sciences*, 2005.
113. Reviewer, *European Journal of Operational Research*, 2005.
114. Reviewer, *Journal of Systems and Software*, 2004-2005, 2007.
115. Reviewer, *Journal of Decision Support Systems*, 2004.
116. Reviewer, *International Journal of Computers and Applications*, 2003.
117. Reviewer, *SIMULATION: Transactions of the Society for Modeling and Simulation International*, 2003.
118. Reviewer, *ACM Transactions on Computer Systems*, 2002, 2006, 2008, 2009, 2011.
119. Reviewer, *IEEE Transactions on Computers*, 1999-2007, 2009, 2012.
120. Reviewer, *IEEE Transactions Industrial Informatics*, 2006.
121. Reviewer, *IEEE Transactions on Parallel and Distributed Systems*, 2000, 2001, 2002, 2006-2010.
122. Reviewer, *The Computer Journal*, 2001.
123. Reviewer, *Computer Networks (Elsevier)*, 2001, 2002, 2006, 2008, 2009.
124. Reviewer, Euromicro Conference on Real-Time Systems, 2003-2010.
125. Reviewer, ACM SIGPLAN Conference on Languages, Compilers, and Tools for Embedded Systems, 2003.
126. Reviewer, IEEE Real-Time Systems Symposium, 1997-2007, 2010.
127. Reviewer, IEEE Real-Time Technology and Applications Symposium, 1996-1999, 2003-2005, 2008-2010.
128. Reviewer, International Conference on Parallel Processing, 1997.
129. Member, IEEE PGM Standard Committee, 1996-2000.

## University Service and Board Activities

1. Co-Chair, UNL Task Force on Achieving Distinction, 2016-2017.
2. Member, Board of Directors, NUtech Ventures, 2016-2018.
3. Member, Board of Directors, Nebraska Innovation Campus Development Corporation, 2016-2018.
4. Member, Board of Directors, National Strategic Research Institute, 2016-2018.
5. Member, Nebraska Manufacturing Extension Partnership (MEP) Advisory Board, 2016-2018.
6. Member, Nebraska's Experimental Program to Stimulate Competitive Research (EPSCoR) Committee, 2016-2018.
7. Chair, UNL Criterion Working Group Two (Integrity: Ethical & Responsible Conduct) for the 2016-17 Higher Learning Commission (HLC) Reaffirmation of Accreditation Comprehensive Evaluation, 2014-2016.
8. Chair, UNL Massive Open On-line Course (MOOC) Task force, 2012–2013.
9. Chair, Chemical Engineering Department Chair Search Committee, 2012–2013.
10. Member, Faculty Council of the Chancellor's Commission on the Status of Women, 2013–2015.
11. Member, Advance Faculty Committee, 2012-2013.
12. Member, Faculty Advisory Committee for the Water for Food Institute, 2010–2013.
13. Member, UNL Associate Vice Chancellor for Research Search Committee, 2011–2012.
14. Member, UNL Undergraduate Fellowship Advising Group, 2010.
15. Chair, Nebraska University-wide Committee to select recipients of the University of Nebraska Innovation, Development, and Engagement Award, 2010–2012. The committee consists of one faculty member from each NU campus and four community members.
16. Member, College of Engineering Apportionment Appeals Committee, 2010–2012.
17. Member, Committee to Establish a Global Water (for Food) Institute, 2008–2010.
18. Member, UNL Intercollegiate Athletics Committee, 8/2007–8/2010.
19. Member, UNL Chief Information Officer Search Committee, 2009.
20. Member, College of Engineering Research Advisory Committee, 1/2005–2007.
21. Miller and Paine CSE Research Facility Manager, 2003–2008.
22. Chair, Computer Science & Engineering Personnel Committee, 9/2006–8/2008.
23. Member, Computer Science & Engineering Advisory Committee, 9/2000–8/2008.
24. Member, Computer Science & Engineering Facilities and Space Committee, 9/2004–8/2008.

25. Member, J.D. Edwards Honors Program Undergraduate Curriculum Committee, 8/1999–8/2008.
26. Facilitator/Instructor, Honors Colloquium Academic Session, June 18, 2005.
27. Mentor to Dr. Jun Wang, 2005 Summer Grant Writing Institute, May–June, 2005.
28. (External) Member, Promotion Committee for Dr. Sherri Harms (UNK), 10/2004-12/2004.
29. Panelist, “Writing Winning Proposals for Science, Mathematics, Engineering, Technology Graduate Students” workshop, October 21, 2004.
30. Member, Master of Engineering Graduate Board (CET), 2003–2006.
31. Instructor, Mock Class for JDEP Open House, October 16, 2004.
32. Member, JDEP Design Studio Project Manager Search Committee, 2006.
33. Member, CSE Faculty Search Committee, 2004-2006
34. Member, UNL Rural Initiative Project Manager Search Committee, 8/2004-10/2004.
35. Member, UNL IANR 4-H Science and Technology Specialist Search Committee, 8/2004-10/2004.
36. Member, Research, NT & Information Systems Administrator Search Committee, 5/2004-7/2004.
37. Mentor, Summer Research Program, 2004.
38. Member, College of Engineering and Technology Faculty Research Advisory Committee, 8/1998–2004.
39. ITA Panellist, August 2003.
40. Mentor, Summer Research Program, 2003.
41. Reviewer, Grant Proposals to the Office of Vice Chancellor of Research, 2003.
42. Instructor, Mock Class for UNL Distinguished Scholars Day, October 29, 2002.
43. Chair, Research, NT & Information Systems Administrator Search Committee, 4/2002-5/2002.
44. Member, UNL Department of Computer Science and Engineering Services Committee, 8/1998–7/1999, 2000–2004.
45. Faculty Advisor, UNL student chapter of the Association for Women in Computing (AWC), 8/1998–2004.
46. Faculty Advisor, Husker Linux User Group (HLUG), 9/2000–2005.
47. Faculty Advisor, Game Developers Club, 2003–2005.
48. Member, UNL Department of Computer Science and Engineering Curriculum Committee, 8/1998–8/2000.
49. Chair, Systems Track Ph.D. Qualifier Exam Committee, Fall 1999, Fall 2001, Spring 2002, Fall 2002.



50. Member, Systems Track Ph.D. Qualifier Exam Committee, 1988-present.
51. Session Chair, Undergraduate Research Fair, 2000, 2001.
52. Facilitator, UNL Teaching Assistant Training Micro-Teaching Workshop, August 19, 1999.
53. Participant, UNL Research Enhancement Initiative, 1999.
54. Member, UNL Department of Computer Science and Engineering Facilities Committee, 8/1999–8/2002.
55. ACM Programming Team Coach, UNL teams that competed in the 1998 Regional ACM Programming Contest. Our teams finished 1st and 3rd.
56. Judge, Regional ACM Programming Contest, 1998, 1999.
57. Judge, CSE Day Programming Contest, 2000, 2001.