

Matthew J. Rutherford, Ph.D.

Department of Computer Science

University of Denver

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Overview

Dr. Rutherford is an Assistant Professor of Computer Science with a joint appointment with the Department of Electrical and Computer Engineering at the University of Denver (DU). He earned his Ph.D. in Computer Science from the University of Colorado at Boulder for the development of simulation-based testing techniques for distributed systems. His research activities revolve around aspects of software system engineering and security for mobile, embedded, distributed, and parallel systems. He has published in the areas of unmanned / autonomous systems, software testing, cyber-physical systems, distributed stream processing, software engineering, distributed systems, content-based networking, model-driven development, generative programming and software configuration management. Dr. Rutherford's research projects are informed and applied to many of the collaborative, cross-disciplinary groups he is associated with. Currently, Dr. Rutherford is the Associate Director of (DU²SL) the DU Unmanned Systems Laboratory, is a member of CRISP, the Colorado Research Institute for Security and Privacy, is an affiliate of the Cooperative Mechatronics Laboratory, and an active member of the NSF I/UCRC on Safety, Security and Rescue (SSR-RC).

Education

Ph.D. Computer Science, University of Colorado at Boulder August, 2006

Dissertation work focused on the development of an innovative simulation-based testing technique for distributed systems (committee chaired by Alexander Wolf and Antonio Carzaniga). Additional research in the areas of content-based networking and experimentation with highly-distributed systems. Qualifying exams in software engineering, artificial intelligence and databases. Additional advanced coursework in artificial intelligence and generative programming.

M.S. Computer Science, University of Colorado at Boulder December, 2001

Thesis research focused on a technique for automatic reconfiguration of enterprise-level distributed systems (committee chaired by Alexander Wolf). Studied processor trace cache architecture in an independent study (advised by Dan Connors). Advanced course work in algorithms, middleware, software engineering, computer architecture, programming languages, user interface design and neural networks.

B.S.E. Civil Engineering, Princeton University June, 1996

Thesis research focused on the development of an integrated GIS/GPS system for facilitating field research (committee chaired by James Smith). Broad curriculum in civil engineering with an emphasis on software development, water resources and environmental engineering. Minor in environmental studies.

Professional Preparation

Assistant Professor

Department of Computer Science, University of Denver **September, 2008 - present**

Worked as an Assistant Professor of Computer Science with a joint appointment in the Department of Electrical and Computer Engineering. Taught courses in computer programming, software testing, distributed systems engineering, computer organization, embedded systems, and secure software. Served as research advisor for approximately ten students conducting research in various aspects of mobile, embedded, parallel and distributed systems.

Co-Founder and Chief Technology Officer

MaxAcceleration **May, 2006 - present**

Worked in the technical leadership role for a startup providing software to regional and shortline railroads over the Internet. Accomplishments include: development and execution of the technical strategy; design and development of an innovative web-application generation framework; deployment and support of multiple mission-critical products; participation in business-development in both pre- and post-sales roles.

Postdoctoral Researcher

University of Colorado at Boulder **August, 2006 - December, 2007**

Postdoctoral research focused on extending research topics related to evaluating and testing distributed systems and engineering content-based networking protocols and systems.

Research Assistant

University of Colorado at Boulder **September, 2002 - July, 2006**

Investigated various aspects of software engineering with an emphasis on evaluation and testing of distributed systems. Other research topics include content-based networking, model-driven development and generative programming.

Co-founder and Chief Engineer

Chronos Software, Inc. **April, 1999 - September, 2002**

Co-founder of a successful software consultancy specializing in database-driven software systems. Responsibilities included: software architecture, design and implementation; leading a team of engineers through the development life-cycle of numerous projects; administration of client's production systems during iterative release cycles; client relations; business development; and various organizational and administrative tasks.

Software Engineer

Riverside Technology, inc. **July, 1996 - July, 1998**

Lead developer on a number of software systems used operationally by the National Weather Service, Panama Canal Commission and the State of Colorado. Most were used for decision support of water resources issues. Specific responsibilities included: designing and developing software in C/C++ and Java for Informix databases, administering a heterogeneous network of UNIX workstations including the corporate WWW and FTP sites, and developing scripts and utilities to assist with cross-platform software development.

Publications

Book Chapters

- James Balasalle, Mario A. Lopez, Matthew J. Rutherford, “Optimizing Memory Access Patterns for Cellular Automata on GPUs,” *GPU Computing Gems*, Elsevier Inc., 2012.

Journal Papers

- Allistair Moses, Matthew J. Rutherford, Michail Kontitsis, Kimon P. Valavanis, “IN REVIEW: UAV-borne X-band Radar for MAV Collision Avoidance,” *Journal of Defense Modeling and Simulation: Applications, Methodology, Technology*, Society for Modeling and Simulation International (SCS), .
- Goncalo Martins, Allistair Moses, Matthew J. Rutherford, Kimon P. Valavanis, “Enabling Intelligent Unmanned Vehicles Through XMOS Technology,” *Journal of Defense Modeling and Simulation: Applications, Methodology, Technology*, Society for Modeling and Simulation International (SCS), January 19, 2011.
- Matthew J. Rutherford, Antonio Carzaniga, Alexander L. Wolf, “Evaluating Test Suites and Adequacy Criteria using Simulation-Based Models of Distributed Systems,” *IEEE Transactions on Software Engineering*, IEEE Computer Society, 34 (4), July, 2008.

Refereed Conference Papers

- James Balasalle, Mario A. Lopez, Matthew J. Rutherford, “IN REVIEW: Improving the Performance of a Cellular Automata-based Surface-Water Flow Model with CUDA,” *Proceedings of the 19th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACMGIS 2011)*, Chicago, Illinois, USA, .
- Allistair Moses, Matthew J. Rutherford, Kimon P. Valavanis, “Radar-Based Detection and Identification for Miniature Air Vehicles,” *Proceedings of the 2011 IEEE Multi-Conference on Systems and Control (MSC 2011)*, Denver, Colorado, USA, September, 2011.
- Roy Godzdanker, Matthew J. Rutherford, Kimon P. Valavanis, “ISLANDS: A Self-Leveling Landing Platform for Autonomous Miniature UAVs,” *Proceedings of the 2011 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM 2011)*, Budapest, Hungary, July, 2011.
- Goncalo Martins, Matthew J. Rutherford, Kimon P. Valavanis, “Search Methodologies for Node Recovery in Robotic Swarms,” *Proceedings of the 19th IEEE Mediterranean Conference on Control and Automation (MED 2011)*, Corfu, Greece, June, 2011.
- Goncalo Martins, Matthew J. Rutherford, Michail Kontitsis, Kimon P. Valavanis, “UAV-borne X-band Radar for MAV Collision Avoidance,” *Proceedings of the 2011 SPIE Defense, Security and Sensing Conference (SPIE 2011)*, Baltimore, MD, USA, May, 2011.
- Kavir Shrestha, Matthew J. Rutherford, “An Empirical Evaluation of Assertions as Oracles,” *Proceedings of the Fourth IEEE International Conference on Software Testing, Verification and Validation (ICST 2011)*, Berlin, Germany, March, 2011.
- Matthew J. Rutherford, Vahid Yousefzadeh, “The Impact of Electric Vehicle Battery Charging on Distribution Transformers,” *Proceedings of the 2011 Applied Power Electronics Conference (APEC 2011)*, Ft. Worth, Texas, USA, March, 2011.
- Nathan S. Evans, Chris GauthierDickey, Christian Grothoff, Krista Grothoff, Jeff Keene, Matthew J. Rutherford, “Simplifying Parallel and Distributed Simulation with the DUP System,” *Proceedings of the 43rd Annual Simulation Symposium (ANSS’10)*, Orland, Florida, USA, April, 2010.

- Kai C. Bader, Tilo Eissler, Chris GauthierDickey, Nathan S. Evans, Christian Grothoff, Krista Grothoff, Jeff Keene, Harald Meier, Craig Ritzdorf, Matthew J. Rutherford, “Distributed Stream Processing with DUP,” *Proceedings of the IFIP International Conference on Network and Parallel Computing (NPC 2010)*, Zhengzhou, China, September, 2010.
- Matthew J. Rutherford, Antonio Carzaniga, Alexander L. Wolf, “Simulation-Based Testing of Distributed Systems,” *Proceedings of 14th ACM SIGSOFT Symposium on Foundations of Software Engineering (FSE)*, Portland, OR, November, 2006.
- Yanyan Wang, Matthew J. Rutherford, Antonio Carzaniga, Alexander L. Wolf, “Automating Experimentation on Distributed Testbeds,” *Proceedings of 20th IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pp. 164-173, Long Beach, CA, USA, November, 2005.
- Antonio Carzaniga, Matthew J. Rutherford, Alexander L. Wolf, “A Routing Scheme for Content-Based Networking,” *Proceedings of IEEE INFOCOM 2004*, pp. 918-928, Hong Kong, China, March, 2004.
- Matthew J. Rutherford, Alexander L. Wolf, “A Case for Test-Code Generation in Model-Driven Systems,” *Second International Conference on Generative Programming and Component Engineering (GPCE)*, pp. 377-396, Erfurt, Germany, September, 2003.
- Matthew J. Rutherford, Kenneth M. Anderson, Antonio Carzaniga, Dennis Heimbigner, Alexander L. Wolf, “Reconfiguration in the Enterprise JavaBean Component Model,” *Proceedings of IFIP/ACM Working Conference on Component Deployment (CD)*, pp. 67-81, Berlin, Germany, June, 2002.

Dissertation / Theses

- Matthew J. Rutherford, “Adequate System-Level Testing of Distributed Systems,” *PhD Thesis*, University of Colorado at Boulder, August, 2006.
- Matthew J. Rutherford, “EJB-ARK: Enterprise JavaBean Automatic Reconfiguration Framework,” *Master Thesis*, University of Colorado at Boulder, December, 2001.
- Matthew J. Rutherford, “The Fully Integrated Environmental Location and Data System: A GPS/GIS System,” *Bachelor Thesis*, Princeton University, June, 1996.

Theses Supervised

- James Balasalle, “Memory Access Patterns for Cellular Automata Using GPGPUs,” *Master of Science in Computer Science*, Department of Computer Science, University of Denver, March, 2011.
- Arlen Fletcher, “Threat Analysis of Smart Grid Consumer Premises Equipment,” *Master of Science in Applied Science*, University College, University of Denver, May, 2010.
- Kavir Shrestha, “An Empirical Evaluation of the Effectiveness of JML Assertions as Test Oracles,” *Master of Science in Computer Science*, Department of Computer Science, University of Denver, March, 2010.

Patents

- Allistair Moses, Matthew J. Rutherford, Kimon P. Valavanis, “Provisional Patent: Radar-Based Detection and Identification for Miniature Air Vehicles,” *U.S. Patent Application Serial Number 61/478,681*, United States Patent and Trademark Office, April 26, 2011.
- Roy Godzdanker, Kimon P. Valavanis, Matthew J. Rutherford, “Provisional Patent: Intelligent self-leveling and nodal docking system,” *U.S. Patent Application Serial Number 61/411,635*, United States Patent Office, November 9, 2010.

Refereed Workshop Papers

- Matthew J. Rutherford, “Integrating a Performance Analysis Kit into Model-Driven Development,” *Proceedings of 5th GPCE Young Researchers Workshop 2003*, Erfurt, Germany, September, 2003.

Technical Reports

- Matthew J. Rutherford, Antonio Carzaniga, Alexander L. Wolf, “Distributed System Failures: Observations and Implications for Testing,” *Technical Report CU-CS-994-05*, Computer Science Department, University of Colorado at Boulder, April, 2005.

Teaching

- *COMP 3701 / COMP 4701 – Secure Programming* **Spring Quarter, 2011**
Designed a new elective for upper division undergraduate and graduate students using the book “24 Deadly Sins of Software Security: Programming Flaws and How to Fix Them” by Howard, LeBlanc, and Viega.
- *COMP 2691 / ENCE 3241 – Computer Organization* **Winter Quarter, 2011**
Required course for undergraduate Computer Science and Computer Engineering students. Used “Computer Organization and Design, Fourth Edition” by Patterson and Hennessy and the MARS tool for assembly programming exercises.
- *COMP 4704 – Topics: Distributed Software Systems Engineering* **Winter Quarter, 2011**
Industry course taught at Lockheed-Martin Space Systems company in Littleton, CO. Used “Distributed Systems: Principles and Paradigms (2nd Edition)” by Tanenbaum and Van Steen and selected academic articles.
- *COMP 4705 – Topics: Resource Constrained Systems* **Spring Quarter, 2010**
Industry course taught at Lockheed-Martin Space Systems company in Littleton, CO. Used “Real-Time UML: Developing Efficient Objects for Embedded Systems” by Bruce Powell and selected academic articles.
- *COMP 4701 – Topics: Distributed and Networked Systems Engineering* **Winter Quarter, 2010**
Industry course taught at Northrop-Grumman Corporation in Aurora, CO. Used “Distributed Systems: Principles and Paradigms (2nd Edition)” by Tanenbaum and Van Steen and selected academic articles.
- *COMP 1771 – Introduction to Computer Science I, Honors* **Fall Quarter, 2009**
Introduction to Java for incoming Freshmen who took AP Computer Science or otherwise programmed before. Used the Savitch and Carrano, 5th Edition, Introduction to Java textbook.
- *COMP 4704 – Topics: Distributed Software Systems Engineering* **Spring Quarter, 2009**
Industry course taught at Lockheed-Martin Space Systems company in Littleton, CO. Used “Distributed Systems: Principles and Paradigms (2nd Edition)” by Tanenbaum and Van Steen and selected academic articles.
- *COMP 3705 – Topics: Software Testing* **Winter Quarter, 2009**
Industry course taught at Lockheed-Martin Space Systems company in Littleton, CO. Used “Introduction to Software Testing” by Ammann and Offutt.
- *COMP 1771 – Introduction to Computer Science, Honors* **Fall Quarter, 2008**
Introduction to Java for incoming Freshmen who took AP Computer Science or otherwise programmed before. Used the Savitch and Carrano, 5th Edition, Introduction to Java textbook.
- *COMP 4705 – Topics in Distributed Stream Processing* **Fall Quarter, 2008**
Research-oriented course with paper presentations and a group development project. Led directly to the development of The DUP System, and two refereed conference publications.

- *Web-Application Programming for the New York City Fire Department* **December, 2007**
Lead a professional training course for FDNY personnel on Java web-application development using Struts. This course was attended by developers and managers and received excellent reviews.
- *CSCI 1300: Computer Science 1: Programming* **Spring, 1999**
Teaching Assistant. Conducted weekly recitation and office hours, graded homework assignments, quizzes and tests. Received a “Very Good” overall rating from the course instructor.
- *Unix Shell Scripting* **September, 2007**
Lead a virtual training course for Lockheed-Martin personnel on Unix Shell Scripting with Bash. This course was attended by software developers and system administrators. Anonymous reviews of this course were excellent including perfect scores on evaluation questions related to subject knowledge and ability to answer questions; also received a near-perfect score on ability to explain information clearly.

Talks

Conference Talks

- Matthew J. Rutherford, “An Empirical Evaluation of Assertions as Oracles,” *IEEE International Conference on Software Testing, Verification and Validation (ICST)*, Berlin, Germany, March 22, 2011.
- Matthew J. Rutherford, “The Impact of Electric Vehicle Battery Charging on Distribution Transformers,” *2011 Applied Power Electronics Conference*, Ft. Worth, TX, March 03, 2011.
- Matthew J. Rutherford, “Simplifying Parallel and Distributed Simulation with the DUP System,” *43rd Annual Simulation Symposium (ANSS’10)*, Orlando, FL, April 14, 2010.
- Matthew J. Rutherford, “Simulation-Based Testing of Distributed Systems,” *14th ACM SIGSOFT Symposium on Foundations of Software Engineering (FSE)*, Portland, OR, November, 2006.
- Matthew J. Rutherford, “A Case for Test-Code Generation in Model-Driven Systems,” *Second International Conference on Generative Programming and Component Engineering (GPCE)*, Erfurt, Germany, September 25, 2003.

Workshop Talks

- Matthew J. Rutherford, “RealBed: A Real-Time Test Bed for Groups of Interacting Robots,” *2011 Winter Meeting of the NSF I/UCRC Safety, Security, Rescue Research Center (SSR-RC)*, Denver, CO, January 10, 2011.
- Matthew J. Rutherford, “Parallel and Distributed Processing of Anomaly Data with DUP,” *2009 Fall Meeting of the NSF I/UCRC Safety, Security, Rescue Research Center (SSR-RC)*, Denver, CO, November 30, 2009.
- Matthew J. Rutherford, “Integrating a Performance Analysis Kit into Model-Driven Development (GPCE-YRW),” *5th GPCE Young Researchers Workshop 2003*, Erfurt, Germany, September 25, 2003.

Miscellaneous Talks

- Matthew J. Rutherford, “The Transputer Lives! Enabling Advanced Embedded Applications through X MOS Technology,” *Department of Computer Science Research Seminar, University of Denver*, Denver, CO, February 04, 2011.
- Matthew J. Rutherford, “PageRank: The Algorithm Behind Googles Search Engine,” *University of Denver Alumni Symposium 2010*, Denver, CO, October 1, 2010.
- Matthew J. Rutherford, “RMIMA Employment Panel 2010,” *Panel Discussion, Rocky Mountain Information Management Association*, Denver, CO, January 14, 2010.

- Matthew J. Rutherford, “Distributed and Parallel Processing with DUP and CUDA,” *Electrical and Computer Engineering Graduate Seminar, University of Denver*, Denver, CO, January 07, 2010.
- Matthew J. Rutherford, “Trustworthy SmartGrid Systems,” *Brainstorming Session with National Renewable Energy Laboratory (NREL) / University of Denver*, Denver, CO, November 11, 2009.
- Matthew J. Rutherford, “Trustworthy Cyber-Physical Systems,” *Brainstorming Session with Johnson Space Center / University of Denver*, Denver, CO, November 3, 2009.
- Matthew J. Rutherford, “Plumbing the Internet,” *University of Denver Alumni Symposium 2009*, Denver, CO, October 2, 2009.
- Matthew J. Rutherford, “Plumbing the Internet,” *University of Denver Alumni Symposium 2008*, Denver, CO, October 3, 2008.

Service

Academic Service

- **Program Committee Member**
2012 International Conference on Software Engineering, New Ideas and Emerging Results Track July, 2011 – May, 2012
- **Website Chair**
2012 International Conference on Unmanned Aircraft Systems (ICUAS'12) August, 2011 – May, 2012
Responsible for updating / organizing the website.
- **Reviewer**
19th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS 2011) July, 2011 – August, 2011
- **Reviewer**
Software Testing, Verification and Reliability Journal August, 2011
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver July 30, 2011
Ph.D. qualifying exam committee member: Salwa Elaikili. Advisor: Dr. Anneliese Andrews.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver July 30, 2011
Ph.D. qualifying exam committee member: Osama Ben Omran. Advisor: Dr. Anneliese Andrews.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver July 29, 2011
Ph.D. qualifying exam committee member: Mahmoud Abdelgawad. Advisor: Dr. Anneliese Andrews.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver July 29, 2011
Ph.D. qualifying exam committee member: Ahmed Gario. Advisor: Dr. Anneliese Andrews.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver July 22, 2011
Ph.D. qualifying exam committee member: Dave Domico. Advisor: Dr. Anneliese Andrews.
- **MS Thesis Defense, Outside Committee Chair**
Department of Electrical and Computer Engineering, University of Denver June 29, 2011
Outside chair of MS Thesis Committee, Kevin Veon. Advisor: Dr. Mohammad Mahoor.

- **Ph.D. Design Exam Committee Member**
Department of Electrical and Computer Engineering, University of Denver May 23, 2011
 Ph.D. qualifying exam committee member: Yanzhe Cui. Advisor: Dr. Richard Voyles.
- **Ph.D. Design Exam Committee Member**
Department of Electrical and Computer Engineering, University of Denver May 23, 2011
 Ph.D. qualifying exam committee member: Jagadeesh Pandiyan. Advisor: Dr. Richard Voyles.
- **Ph.D. Design Exam Committee Member**
Department of Electrical and Computer Engineering, University of Denver May 20, 2011
 Ph.D. qualifying exam committee member: Goncalo Martins. Advisor: Dr. Kimon Valavanis.
- **Ph.D. Design Exam Committee Member**
Department of Electrical and Computer Engineering, University of Denver May 19, 2011
 Ph.D. qualifying exam committee member: Jason Monast. Advisor: Dr. Kimon Valavanis.
- **Ph.D. Design Exam Committee Member**
Department of Electrical and Computer Engineering, University of Denver May 19, 2011
 Ph.D. qualifying exam committee member: Allistair Moses. Advisor: Dr. Kimon Valavanis.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver March 4, 2011
 Ph.D. qualifying exam committee member: Scott Ives. Advisor: Dr. Anneliese Andrews.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver March 4, 2011
 Ph.D. qualifying exam committee member: Joe Lucente. Advisor: Dr. Anneliese Andrews.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver February 11, 2011
 Ph.D. qualifying exam committee member: Joe Gradecki. Advisor: Dr. Anneliese Andrews.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver February 4, 2011
 Ph.D. qualifying exam committee member: Salah Boukhris. Advisor: Dr. Anneliese Andrews.
- **Publicity / Publications Chair**
2011 International Conference on Unmanned Aircraft Systems (ICUAS'11) December, 2010 – May, 2011
 Maintained the website, publicity and publications.
- **MS Thesis Defense, Outside Committee Chair**
Department of Electrical and Computer Engineering, University of Denver July 19, 2010
 Outside chair of MS Thesis Committee, Xiaoting Yang. Advisor: Dr. Richard Voyles.
- **Ph.D. Committee Member**
Department of Computer Science, University of Denver July 16, 2010
 Committee member for Ph.D., Gabor Papp. Advisor: Dr. Chris GauthierDickey.
- **MS Thesis Defense, Outside Committee Chair**
Department of Mechanical and Materials Engineering, University of Denver May 12, 2010
 Outside chair of MS Thesis Committee, Susan Mueller. Advisor: Dr. Rahmat Shoureshi.
- **MS Thesis Defense, Outside Committee Chair**
Department of Electrical and Computer Engineering, University of Denver May 11, 2010
 Outside chair of MS Thesis Committee, Kang Lee. Advisor: Dr. Richard Voyles.

- **NSF Panelist**
National Science Foundation, CISE Panelist December, 2009
 Member of a National Science Foundation review panel for the Directorate for Computer and Information Science and Engineering (CISE).
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver November 24, 2009
 Ph.D. qualifying exam committee member: Seana Hagerman. Advisor: Dr. Anneliese Andrews.
- **Ph.D. Qualifying Exam Committee Member**
Department of Computer Science, University of Denver March 23, 2009
 Ph.D. qualifying exam committee member: Seif Azghandi. Advisor: Dr. Anneliese Andrews.
- **Workshop Co-Chair**
2009 International Conference on Software Testing (ICST) August, 2008 - April, 2009
 Member of the committee tasked with selecting and organizing the workshops associated with ICST.
- **Reviewer**
International Conference on Software Engineering (ICSE) October, 2008
- **Reviewer**
Software Quality Journal (Springer) October, 2008
- **PlanetLab Site Technical Administrator**
Software Engineering Research Lab (SERL) November, 2004 - November, 2007
 Responsible for installing and maintaining the SERL machines that are part of the PlanetLab global distributed testbed.
- **SEWORLD Administrator**
Software Engineering Research Lab (SERL) October, 2005 - December, 2008
 Administrator of the SEWORLD email list.
- **SEWORLD Moderator**
Software Engineering Research Lab (SERL) September, 2004 - October, 2005
 Moderator of the SEWORLD email list.
- **Workshop Organizing Committee**
2005 GPCE Young Researchers Workshop January, 2005 - September, 2005
 Leader of the organizing committee for 7th GPCE Young Researchers Workshop that took place in Tallinn, Estonia.
- **Reviewer**
Fundamental Approaches to Software Engineering (FASE 2005) April, 2005
- **Reviewer**
Generative Programming and Component Engineering (GPCE 2004) October, 2004
- **Reviewer**
International Conference on Dependable Systems and Networks (DSN 2004) June, 2004
- **Workshop Organizing Committee**
2004 Net.Object Days and GPCE Young Researchers Workshops February, 2004 - October, 2004
 Member of the organizing committee for the two young researchers workshops that grew out of the 2003 NODe/GPCE Young Researchers Workshop.

Professional Service

- **Technology Committee Chair**

Princeton Entrepreneur's Network

September, 2002 - August, 2008

PrincetonEN is a not-for-profit organization devoted to facilitating the founding, funding, and servicing of rapid-growth companies, primarily involving Princeton alumni/ae.