

# Curriculum Vitae

## Personal Information

University of Maryland

College Park, Maryland 20742

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## Education

B.S.	CSU Dominguez Hills	1986	Computer Science
M.S.	UC Irvine	1988	Computer Science
Ph.D.	UC Irvine	1991	Computer Science

## University Experience

9/86–6/87	Teaching Assistant	Department of Information and Computer Science, UC Irvine
6/87–6/91	Research Assistant	Department of Information and Computer Science, UC Irvine
8/91–12/91	Lecturer	Department of Computer Science, University of Maryland University of Maryland Institute for Advanced Computer Studies
12/91–8/98	Assistant Professor	Department of Computer Science, University of Maryland University of Maryland Institute for Advanced Computer Studies
9/98–9/99	Visiting Professor	Dipartimento di Elettronica e Informazione, Politecnico di Milano
2/99–6/99	Visiting Professor	Dipartimento di Scienze della Comunicazione, Università della Svizzera Italiana
8/98–7/07	Associate Professor	Department of Computer Science, University of Maryland University of Maryland Institute for Advanced Computer Studies
8/07 - present	Full professor	Department of Computer Science, University of Maryland University of Maryland Institute for Advanced Computer Studies
7/07 – 6/09	Associate Director	University of Maryland Institute for Advanced Computer Studies

## University Experience (continued)

6/09-9/09, 6/10-7/10	Visiting Professor	Libera Universita' di Bolzano
6/10	Visiting Professor	Leopold-Franzens-Universität Innsbruck
6/11 – present	Visiting Scientist	Software Engineering Institute, Carnegie Mellon University
1/14 - 1/15	Research Fellow	Fraunhofer Center for Experimental Software Engineering
2/15 - 6/5	Director (acting)	Fraunhofer Center for Experimental Software Engineering
7/15 - present	Executive Director and Scientific Director	Fraunhofer Center for Experimental Software Engineering
7/18- present	Affiliate Faculty Member	University of Maryland Institute for Systems Research

## Other Experience

Technical Consultant: Sun Microsystems, Lucent Bell Laboratories, Software Productivity Consortium, Motorola, MCC, IBM, CMU - Software Engineering Institute

Member of Technical Staff, Hughes Aircraft Co., Fullerton, CA

Member of Technical Staff, Contel Co., Fairfax, VA

## Research, Scholarly and Creative Activities<sup>1 2</sup>

### Books Edited

1. Adam Porter and Janos Sztipanovits Eds. New Visions for Software Design & Productivity: Research & Applications Workshop of the Interagency Working Group for Information Technology Research and Development (ITRD) Software Design and Productivity (SDP) Coordinating Group. 2002.
2. Alessandro Orso and Adam Porter, Eds. 1<sup>st</sup> ICSE Workshop on Remote Analysis and Measurement of Software Systems (RAMSS). 2003.
3. Alessandro Orso and Adam Porter, Eds. 2<sup>nd</sup> ICSE Workshop on Remote Analysis and Measurement of Software Systems (RAMSS). 2004.
4. Adam Porter, Victor Pankratius and Lawrence Votta, International Workshop on Multicore Software Engineering (IWMSE 2009), 2009.

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<sup>1</sup> Student co-authors for whom I was a primary advisor are indicated with the <sup>†</sup> symbol.

<sup>2</sup> Student co-authors for whom I was not a primary advisor, but on whose thesis committees I sat are indicated with the <sup>‡</sup> symbol.

## Book Chapters

1. Adam A. Porter and Richard W. Selby. Empirically guided software development using metric-based classification trees. In “Applying Software Metrics”, edited by Paul Oman and Shari Lawrence Pfleeger. IEEE Computer Society Press, October 1996.
2. Turner, H., White, J., Reed, J., Galindo, J., Porter, A., Marathe, M., Vullikanti, A., & Gokhale, A. (2013). Building a Cloud-Based Mobile Application Testbed. In I. Management Association (Ed.), *IT Policy and Ethics: Concepts, Methodologies, Tools, and Applications* (pp. 879-899). Hershey, PA: Information Science Reference.

## Refereed Journals

1. Richard W. Selby and Adam A. Porter. Learning from examples: Generation and evaluation of decision trees for software resource analysis. *IEEE Transactions on Software Engineering*, SE-14 (12): 1743–1757, December 1988.
2. Adam A. Porter and Richard W. Selby. Empirically guided software development using metric-based classification trees. *IEEE Software*, 7(2): 46–54, March 1990.
3. Adam A. Porter and Richard W. Selby. Evaluating techniques for generating metric-based classification trees. *Journal of Systems and Software*, 12(3): 209–218, July 1990.
4. Adam A. Porter. Using measurement-driven modeling to provide empirical feedback to software developers. *Journal of Systems and Software*, 20(3): 237–254 March 1993.
5. Adam A. Porter, Lawrence G. Votta, and Victor R. Basili. Comparing Detection Methods for Software Requirements Inspections: A Replicated Experiment. *IEEE Transactions on Software Engineering*, 21(6): 563–575, June 1995. (Early version appears as University of Maryland Technical Report, CS-TR-3327, July 1994).
6. Adam Porter, Harvey Siy<sup>†</sup>, and Lawrence Votta. A Survey of Software Inspections, *Advances in Computers*, vol. 42:39–76, 1996. (Early version appears as University of Maryland Technical Report, UMCP-CSD CS-TR-3552, October 1995).
7. Adam A. Porter and Philip M. Johnson. Assessing Software Review Meetings: Results of a Comparative Analysis of Two Experimental Studies. *IEEE Transactions on Software Engineering*, 23(3): 129–145, March 1997. (Early version appears as University of Maryland Technical Report, UMCP-CSD: CS-TR-3755, February 1997).
8. Adam A. Porter, C. A. Toman, Harvey Siy<sup>†</sup> and L. G. Votta. An Experiment to Assess the Cost-Benefits of Code Inspections in Large Scale Software Development, *IEEE Transactions on Software Engineering*, 23(6): 329–346, June 1997.
9. Adam A. Porter. Fundamental Laws and Assumptions of Software Maintenance, *Empirical Software Engineering*, 2(2): 119-131 June 1997. (invited) (Early version appears as University of Maryland Technical Report, UMCP-CSD: CS-TR-3761, February, 1997).
10. Lalita Jategaonkar Jagadeesan, Adam Porter, Carlos Puchol, J. Christopher Ramming, and Lawrence G. Votta. Specification-based Testing of Reactive Software: A Case Study in Technology Transfer, *Journal of Systems and Software*, 40(3): 249-262,

- January 1998. (Early version appears as University of Maryland Technical Report, UMCP-CSD: CS-TR-3756, February 1997).
11. Adam A. Porter, Harvey P. Siy<sup>†</sup>, Audris Mockus, and Lawrence G. Votta. Sources of Variation in Large-Scale Software Development, *ACM Transactions on Software Engineering and Methodology*, January 1998 7(1): p. 41–79. (Early version appears as University of Maryland Technical Report, UMCP-CSD: CS-TR-3762, February, 1997).
  12. Adam A. Porter and Lawrence G. Votta. Comparing Detection Methods for Software Requirements Inspections: A Replication Using Professional Subjects, *Empirical Software Engineering*, 1998. 3(4): p. 355–379.
  13. T.L. Graves, Mary Jean Harrold, Jung-Min Kim<sup>†</sup>, Adam Porter, and Gregg Rothermel, an Empirical Study of Regression Test Selection Techniques. *ACM Transactions on Software Engineering Methodology*, 10(2): pp. 184-208 (2001).
  14. D. E. Perry, A. Porter, M. Wade, L. Votta and J. Perpich, Reducing inspection interval in large-scale software development. *IEEE Transactions on Software Engineering*. 28(7): 695 – 705, July 2002.
  15. Stuart Faulk, John Gustafson, Philip Johnson, Adam Porter, Walter Tichy and Lawrence Votta. Measuring HPC Productivity. *Journal of High Performance Computing Applications*. 18(4): 459-473, Dec. 2004.
  16. Arvind S. Krishna<sup>‡</sup>, Cemal Yilmaz<sup>†</sup>, Atif Memon, Adam Porter, Douglas C. Schmidt, Aniruddha Gokhale, and Balachandran Natarajan, Applying Model-based Distributed Continuous Quality Assurance Processes to Enhance Persistent Software Attributes, *IEEE Software*, 21(6): 32-40, Nov/Dec 2004.
  17. Arvind S. Krishna<sup>‡</sup>, Douglas C. Schmidt, Atif Memon, Adam Porter, Cemal Yilmaz<sup>†</sup>, A Distributed Continuous Quality Assurance Process to Manage Variability in Performance-intensive Software. *Studia Informatica Universalis*, 4(1): 53-72, March 2005.
  18. Jung-Min Kim<sup>†</sup>, Adam Porter, and Gregg Rothermel. An Empirical Study of Regression Test Application Frequency. *The Journal of Software Testing, Verification & Reliability*. Volume 15, Issue 4, pp. 257-279, December 2005.
  19. Cemal Yilmaz<sup>†</sup>, Myra Cohen, Adam Porter, Covering Arrays for Efficient Fault Characterization in Complex Configuration Spaces. *IEEE Transactions on Software Engineering*. January 2006, 32(1), pp. 20-34.
  20. Cemal Yilmaz<sup>†</sup>, Atif Memon, Adam Porter, Arvind Krishna<sup>‡</sup>, Douglas C. Schmidt and Aniruddha Gokhale, Techniques and Processes for Improving the Quality and Performance of Open-Source Software. *The Software Practice and Improvement Journal*, 11(2), pp. 163-176, May 2006.
  21. Cemal Yilmaz<sup>†</sup>, Adam Porter, Arvind Krishna<sup>‡</sup>, Atif Memon, Douglas C. Schmidt, Aniruddha Gokhale, and Bala Natarajan, Reliable Effects Screening: A Distributed Continuous Quality Assurance Process for Monitoring Performance Degradation in Evolving Software Systems. *IEEE Transactions on Software Engineering*. February 2007, 33(2), pp. 124-141.
  22. Murali Haran, Alan Karr, Michael Last, Alessandro Orso, Adam Porter, Ashish Sanil and Sandro Fouche<sup>†</sup>, Techniques for Classifying Executions of Deployed Software to Support Software Engineering Tasks, *IEEE Transactions on Software Engineering*. May 2007, 33(5), pp. 287-304.

23. Adam Porter, Atif Memon, Cemal Yilmaz<sup>†</sup>, Douglas C. Schmidt and Bala Natarajan, Skoll: A Process and Infrastructure for Distributed Continuous Quality Assurance. *IEEE Transactions on Software Engineering*. August 2007, 33(8), pp. 510-525.
24. Michael Last, Gheorghe Luta, Alex Orso, Adam Porter and Stan Young, Pooled ANOVA, *Computational Statistics & Data Analysis*, August 2008, vol. 52, issue 12, pages 5215-5228.
25. Jules White, Brian Dougherty, Richard Schantz, Douglas C. Schmidt, Adam Porter, and Angelo Corsaro, R&D Challenges and Solutions for Highly Complex Distributed Systems: a Middleware Perspective, the Springer Journal of Internet Services and Applications special issue on the Future of Middleware, 2011.
26. Ilchul Yoon and Alan Sussman and Atif Memon and Adam Porter, Testing Component Compatibility in Evolving Configurations, in *Journal of Information and Software Technology*, Volume 55, Issue 2, February 2013.
27. Charles Song, Adam Porter, Jeffrey S. Foster, "iTree: Efficiently Discovering High-Coverage Configurations Using Interaction Trees," *IEEE Transactions on Software Engineering*, vol. 40, no. 3, pp. 251-265, March, 2014.
28. Cemal Yilmaz, Adam Porter, Myra B. Cohen, Emine Dumlu, "Reducing Masking Effects in Combinatorial Interaction Testing: A Feedback Driven Adaptive Approach," *IEEE Transactions on Software Engineering*, vol. 40, no. 1, pp. 43-66, Jan., 2014
29. Cemal Yilmaz, Sandro Fouche, Myra B. Cohen, Adam Porter, Gulsen Demiroz, Ugur Koc, "Moving Forward with Combinatorial Interaction Testing," *Computer*, vol. 47, no. 2, pp. 37-45, Feb., 2014
30. Experiences Using Online War Games to Improve the Business of Naval Systems Acquisition, Nickolas H. Guertin, Paul Bruhns, Douglas C. Schmidt, and Adam Porter, *IT Cutter*, June 2014.
31. Nick Guertin, Brian Womble, Paul Bruhns, Douglas C. Schmidt, Adam Porter, and Bill Antypas, "Management Strategies for Software Infrastructure in Large-Scale Cyber-Physical Systems for the US Navy," *Cutter IT Journal*, Vol. 28, No. 5, May 2015.
32. Shilton, K., Heidenblad, D., Porter, A., Winter, S., and Kendig, M. Role-Playing Computer Ethics: Designing and Evaluating the Privacy by Design (PbD) Simulation. *Sci Eng Ethics* (2020)

## Refereed Journals in Submission

1. NA

## Talk, Abstracts, and Other Professional Papers Presented

### *Invited Talks*

1. Contel Technology Center, Chantilly, VA, June 22, 1990.
2. University of Washington, Seattle, WA, April 4, 1991.
3. Georgia Institute of Technology, Atlanta, GA, April 9, 1991.
4. University of Maryland, College Park, College Park, .MD, April 11, 1991.

5. Portland State University, Portland, OR, April 17, 1991.
6. Textronics Corp., Beaverton, OR, April 18, 1991.
7. Purdue University, West Lafayette, IN, April 23, 1991.
8. AT&T Bell Laboratories, Naperville, IL, June 17, 1991.
9. Fourteenth International Conference on Software Engineering, Melbourne, Australia, May 1992. (Poster session).
10. Mitre Corporation, McClean, VA, June 1992.
11. Workshop on Experimental Software Engineering Issues, Dagstuhl, Germany September 11, 1992.
12. Software Productivity Consortium, Herndon, VA, June 1993
13. Hughes Aircraft Corp., Landover, MD, Feb. 1994.
14. University of Bari, Italy, May 21, 1994.
15. University of Karlsruhe, Karlsruhe, Germany, Oct. 21, 1994
16. The Second Symposium on the Foundations of Software Engineering, New Orleans, LA, Dec. 1994, Panelist, "Making Software Engineering More Scientific".
17. Mini-Tutorial Session: The International Symposium on Software Metrics, Berlin, Germany, Mar. 1996, "What makes inspections work? Understanding how and why different inspection methods impact effectiveness and cost".
18. Georgia Institute of Technology, Atlanta, GA, May 1996.
19. Washington University at St. Louis, November 15 1996.
20. University of Virginia, November 18 1996.
21. National Institute of Statistical Sciences, November 19 1996.
22. University of California, Irvine, 1996.
23. University of Washington, May 1997.
24. Politecnico di Milano, Sep. 1998.
25. Università della Svizzera Italiana, Mar. 1999.
26. University of Texas at Austin, May 2000.
27. Workshop on New Visions for Software Design and Productivity, National Science Foundation, Arlington, VA. April 18-19, 2001.
28. Workshop on New Visions for Software Design and Productivity: Research and Applications. Vanderbilt University. December 12-15 2001.
29. Workshop on Remote Analysis and Measurement of Software Systems (RAMSS) at ICSE-2003, Portland, Oregon, May 9, 2003.
30. Georgia Institute of Technology, Atlanta. GA. June 2003.
31. Vanderbilt University, Nashville, TN. June 2003.

32. Keynote address. 2<sup>nd</sup> Workshop on Remote Analysis and Measurement of Software Systems (RAMSS) at ICSE-2004, Edinburgh, Scotland, UK. May 2004.
33. Dagstuhl Seminar on Multi-Version Program Analysis, Wadern, Germany June 2005.
34. Politecnico di Milano, Milan, Italy. March 2006.
35. Université Catholique de Louvain, Louvain-la-Neuve, Belgium. April 2006.
36. University College London, London, UK. April 2006.
37. University of Lugano, Lugano, Switzerland. June 2006.
38. Politecnico di Torino, Torino, Italy. June 2006.
39. Free University of Bozen – Bolzano, Bolzano, Italy. July 2006.
40. Selected Speaker, 1<sup>st</sup> Google Conference on Test Automation. September 2006.
41. University of Massachusetts, Amherst. Amherst, MA. September 2006.
42. Microsoft Research, Redmond, WA. November 2006.
43. Selected Speaker, 2<sup>nd</sup> Google Conference on Test Automation. August 2007.
44. IBM TJ Watson Research Center, Hawthorne, NY. September 2007.
45. Keynote address: 21st Brazilian Symposium on Software Engineering, Campinas, SP, Brazil, October 2008.
46. South Chinese University of Technology, Guangzhou, PRC. October 2008.
47. Sichuan University, Chengdu, PRC. October 2008.
48. Università' degli Studi di Bari, Bari, Italy. July 2009.
49. Libera Università' di Bolzano, Bolzano, Italy. July 2009.
50. Invited Speaker, Oredev Developers Conference, Malmo, Sweden, Nov. 2009.
51. Panelist, Dagstuhl Seminar on Practical Software Testing: Tool Automation and Human Factors, March 2010.
52. Libera Università' di Bolzano, Bolzano, Italy. May 2010.
53. Leopold-Franzens-Universität Innsbruck, Innsbruck, Austria, June 2010.
54. Sichuan University, Chengdu, PRC. July 2011.
55. Capitol Area Franchise Association, Vienna, VA, March 2012.
56. Sichuan University, Chengdu, PRC. June 2013.
57. Distinguished Lecture, University of Delaware, Nov. 2013.
58. Panelist, "The Future of Cloud Computing," Federal Cloud Computing Summit, Washington DC, Dec. 2013
59. Panelist, "Specializations: An Overview for Partners," Coursera Partners Conference, London UK, March 2014.

60. Panelist, "Inter-Partner Collaboration," Coursera Partners Conference, London UK, March 2014.
61. Fraunhofer Center for Experimental Software Engineering, June 2014.
62. Panelist, "Designing Successful Specializations: Perspectives from Professors and Partners", Coursera Partners Conference, Irvine, CA, March 2015.
63. 2nd Autonomy Research Workshop, College Park, MD, May 2015.
64. Keynote address, International Conference on Software Testing, Verification and Validation, Chicago, IL, April 2016.
65. Deconstructing the Smartphone: How Federally Funded R&D Enabled the Technologies We Can't Live Without, Congressional R&D Caucus, Washington, DC, June 2016.
66. RMI: Industry 4.0 - Smart Services, Baltimore, MD, Feb. 2017
67. RMI: Industry 4.0 - Smart Services, Baltimore, MD, March. 2017
68. Applying the Rapid Innovation Lab Concept for Smart Farming, International VDI Conference on Smart Farming, Dusseldorf, Germany, April 2017
69. Keynote address, 20th Intl. Conference on Model Driven Engineering Languages and Systems, Austin, Texas, September 2017.
70. Panelist: RMI: The Future Impact of the 4th Industrial Revolution on Maryland Manufacturing, Timonium, MD, Jan. 2018
71. South Carolina Logistics Tech Talk, October 31, 2018, Charleston, SC
72. What is Industry 4.0?, South Carolina Research Alliance, Columbia, SC, March 7, 2019.
73. Invariant Extraction from Virtual Heart Models, CyberCardia Workshop on Medical CPS - ESWEEK 2019, New York, Oct. 2019

## **Refereed Conference Proceedings**

1. Richard W. Selby and Adam A. Porter. Software Metric Classification Trees Help Guide the Maintenance of Large-Scale Systems. In Proceedings of the Conference on Software Maintenance, Miami, FL, October 1989.
2. Richard W. Selby, Greg James, Kent Madsen, Joan Mahoney, Adam Porter, and Doug Schmidt. Classification Tree Analysis Using the Amadeus Measurement and Empirical Analysis System. In Proceedings of the Fourteenth Annual Software Engineering Workshop, NASA/GSFC, Greenbelt, MD, November 1989.
3. Joseph C. Fitzgerald Shari Lawrence Pfleeger and Adam A. Porter. The Contel Software Metrics Program. In Proceedings of the International Conference on Applications of Software Measurement, San Diego, CA, November 1990.
4. Richard W. Selby, Adam A. Porter, and R. Kent Madsen. Metric-Driven Classification Models. In Proceedings of the Thirteenth Minnowbrook Software Engineering Workshop, Blue Mountain Lake, NY, July 1990.

5. Richard W. Selby, Adam A. Porter, Doug C. Schmidt, and James Berney. Metric-driven analysis and feedback systems for enabling empirically guided software development. In Proceedings of the Thirteenth International Conference on Software Engineering, Austin, TX, May 1991. (An early version appears as Arcadia Technical Report UCI-90-19, University of California, September 1990.)
6. Adam A. Porter and Lionel Briand. Optimized Set Reduction for Empirically Guided Software Development. In Proceedings of the Sixteenth Annual Software Engineering Workshop, NASA/GSFC, Greenbelt, MD, December 1991.
7. Adam A. Porter. Using Measurement-Driven Modeling to Provide Empirical Feedback to Software Developers. In Proceedings of the Fourth Annual Oregon Workshop on Software Metrics, Silver Falls, OR, March 1992.
8. Lionel C. Briand and Adam A. Porter. An Alternative Modeling Approach for Predicting Error Profiles in Ada Systems. In Proceedings of the Eurometrics '92 Conference Brussels, Belgium, April 1992.
9. Jianhui Tian<sup>‡</sup>, Adam A. Porter and Marvin Zelkowitz. An Improved Classification Tree Analysis of High Cost Modules Based upon an Axiomatic Definition of Complexity. In Proceedings of the Third International Symposium on Software Reliability Engineering. Research Triangle Park, NC, October 1992.
10. Adam A. Porter. Classification Rules for Predicting Faulty Software Components. Fifth International Conference on Software Engineering and Knowledge Engineering. San Francisco, CA, June 1993.
11. Adam A. Porter and Larry G. Votta. An Experiment to Assess Different Defect Detection Methods for Software Requirements Inspections. In Proceedings of the Sixteenth International Conference on Software Engineering, Sorrento, Italy, May 1994. (An early version appears as University of Maryland Technical Report, CS-TR-3130. September 1993.)
12. Chen Chen<sup>‡</sup>, Adam Porter, and James Purtilo. Tool Support for Tailored Prototyping. In Proceedings of the Quality Software Development Tools Conference, July 1994, Washington D.C. (An early version appears as University of Maryland Technical Report, CS-TR-3242. April, 1994.)
13. Adam A. Porter, Harvey Siy<sup>†</sup>, Carol Toman, and Lawrence G. Votta, An Experiment to Assess the Cost-Benefits of Code Inspection in Large Scale Software Development: A Preliminary Report. In the Nineteenth Annual Software Engineering Laboratory Workshop, NASA/GSFC Greenbelt, MD, November 1994.
14. Lawrence Votta, Adam Porter, and Dewayne Perry. Experimental Software Engineering: A Report on the State of the Art. In Proceedings of the Seventeenth International Conference on Software Engineering, Seattle, Washington, April 1995. (Invited.)
15. Adam A. Porter, Harvey Siy<sup>†</sup>, Carol Toman, and Lawrence G. Votta. An Experiment to Assess the Cost-Benefits of Code Inspection in Large Scale Software Development, In Proceedings of the Third Symposium on the Foundations of Software Engineering, Washington, D.C. Nov, 1995. (An early version appears as University of Maryland Technical Report, CS-TR-3410 and UMIACS-TR-95-14. February, 1995.)
16. Patricia McCarthy<sup>†</sup>, Adam A. Porter, Harvey Siy<sup>†</sup> and Lawrence G. Votta Jr. An Experiment to Assess Cost-Benefits of Inspection Meetings and their Alternatives, In

- Proceedings of the International Symposium on Software Metrics, Berlin, Germany, March, 1996. (An early version appears as University of Maryland Technical Report, UMCP-CSD CS-TR-3520. September, 1995.)
17. Dewayne E. Perry, Adam A. Porter, Lawrence G. Votta and Michael W. Wade, Evaluating Workflow and Process Automation in Wide-Area Software Development, In Proceedings of the Fifth European Workshop on Software Process Technology, October, 1996.
  18. Alan F. Karr, Adam A. Porter, and Lawrence Votta, An Empirical Exploration of Code Evolution, In Proceedings of the International Workshop on Empirical Studies of Software Maintenance, Monterey, CA, November, 1996.
  19. M. Perpich, D. E. Perry, A. A. Porter, L. G. Votta and M. W. Wade, Anywhere, Anytime Code Inspections: Using the Web to Remove Inspection Bottlenecks in Large-Scale Software Development, In Proceedings of the Nineteenth International Conference on Software Engineering”, Boston, MA, May 1997. (An early version appears as University of Maryland Technical Report, UMCP-CSD: CS-TR-3757, February, 1997.)
  20. Adam A. Porter, Harvey P. Siy<sup>†</sup>, and Lawrence G. Votta, Understanding the Effects of Developer Activities on Inspection Interval, In Proceedings of the Nineteenth International Conference on Software Engineering”, Boston, MA, May 1997. (An early version appears as University of Maryland Technical Report, UMCP-CSD: CS-TR-3759.)
  21. Lalita Jategaonkar Jagadeesan, Adam Porter, Carlos Puchol, J. Christopher Ramming, and Lawrence G. Votta, Specification-based Testing of Reactive Software: Tools and Experiments, In Proceedings of the Nineteenth International Conference on Software Engineering”, Boston, MA, May 1997. (An early version appears as University of Maryland Technical Report, UMCP-CSD: CS-TR-3759, February, 1997.)
  22. Thomas Ball, Jung-Min Kim<sup>†</sup>, Adam Porter, and Harvey Siy<sup>†</sup>, If Your Version Control System Could Talk, In Proceedings of the Workshop on Process Modeling and Empirical Studies of Software Evolution, Boston, MA, May, 1997.
  23. Mary Jean Harrold, Renee Miller, Gregg Rothermel, and Adam Porter, A Collaborative Investigation of Program-Analysis-Based Testing and Maintenance, In Proceedings of the International Workshop on Empirical Studies of Software Maintenance, Bari, Italy, October, 1997.
  24. Todd Graves, Mary Jean Harrold, Jung-Min Kim<sup>†</sup>, Adam Porter, and Gregg Rothermel, An Empirical Study of Regression Test Selection Techniques, in Proceedings of the Twentieth International Conference on Software Engineering, Kyoto, Japan, April 1998.
  25. Jung-Min Kim<sup>†</sup>, Adam Porter, and Gregg Rothermel, An Empirical Study of Regression Test Application Frequency, Proceedings of the Twenty-Second International Conference on Software Engineering, Limerick, Ireland, June 2000.
  26. Dewayne Perry, Adam Porter and Lawrence Votta, Empirical Studies of Software Engineering: a Roadmap, in The Future of Software Engineering, Proceedings of the Twenty-second International Conference on Software Engineering, Limerick, Ireland, June 2000. (invited).

27. Douglas Schmidt and Adam Porter, Leveraging Open-Source Communities to Improve the Quality & Performance of Open-Source Software 1st Workshop on Open Source Software Engineering, Toronto, Canada, May 2001.
28. Jung-Min Kim<sup>†</sup> and Adam Porter, A History-Based Test Prioritization Technique for Regression Testing in Resource Constrained Environments. Proceedings of the Twenty-Fourth International Conference on Software Engineering. Orlando, Fl. May 2002.
29. Alessandro Orso and Adam Porter, ICSE Workshop on Remote Analysis and Measurement of Software Systems (RAMSS). In Proceedings of the International Conference on Software Engineering 2003. Portland OR. May 2003. (Invited).
30. Cemal Yilmaz<sup>†</sup>, Adam Porter, and Douglas C. Schmidt, Distributed Continuous Quality Assurance: The Skoll Project, Workshop on Remote Analysis and Measurement of Software Systems (RAMSS) at ICSE-2003, Portland, Oregon, May 9, 2003.
31. Kenny C. Gross, Scott McMaster<sup>†</sup>, Adam Porter, Aleksey Urmanov, and Lawrence G. Votta, Proactive System Maintenance Using Software Telemetry. Workshop on Remote Analysis and Measurement of Software Systems (RAMSS) at ICSE-2003, Portland, Oregon, May 9, 2003.
32. Stuart Faulk, John Gustafson, Adam Porter and Lawrence Votta. "Measuring HPCS Productivity." Proceedings of the Seventh Annual High Performance Embedded Computing Workshop, MIT Lincoln Laboratory, September 2003, pp 53-54.
33. Atif Memon, Adam Porter and Doug Schmidt. Feedback-driven Design of Distributed Real-time & Embedded Component Middleware Via Model-Integrated Computing & Distributed Continuous Quality Assurance', Science of Design: Software-Intensive Systems, A National Science Foundation Invitational Workshop, November 2-4, 2003, Airlie, Virginia
34. A. Memon, A. Porter, C. Yilmaz<sup>†</sup>, A. Nagarajan<sup>†</sup>, D. Schmidt and B. Natarajan. Skoll: Distributed Continuous Quality Assurance, in Proceedings of the International Conference on Software Engineering, May 2004, Edinburgh, Scotland, UK.
35. Stuart Faulk, Adam Porter, Walter Tichy, Philip Johnson, John Gustafson and Larry Votta. Toward Accurate HPC Productivity Measurement, In Proceedings of the 1st International Workshop on Software Engineering for High Performance Computing System Applications, Edinburgh, Scotland, UK. May 2004.
36. C. Yilmaz<sup>†</sup>, A. S. Krishna<sup>‡</sup>, A. Memon, A. Porter, D. C. Schmidt, A. Gokhale, and B. Natarajan. A Model-based Distributed Continuous Quality Assurance Process to Enhance the Quality of Service of Evolving Performance-intensive Software Systems, In proceedings of the 2nd ICSE Workshop on Remote Analysis and Measurement of Software Systems, Edinburgh, Scotland, UK. May 2004.
37. Cemal Yilmaz<sup>†</sup>, Myra Cohen, and Adam Porter. Covering Arrays for Efficient Fault Characterization in Complex Configuration Spaces. In Proceedings of the International Symposium on Software Testing and Analysis. July 2004. Boston, MA.
38. A. S. Krishna<sup>‡</sup>, D. C. Schmidt, A. Memon, A. Porter and D. Sevilla, Improving the Quality of Reusable and Reconfigurable Performance-intensive Software using Model-Integrated Distributed Continuous Quality Assurance. In Proceedings of the International Conference on Software Reuse. July 2004, Madrid, Spain.

39. Emre Turkay, Arvind S. Krishna<sup>‡</sup>, Aniruddha Gokhale, Douglas Schmidt, Bala Natarajan, Adam Porter, Cemal Yilmaz<sup>†</sup>, and Atif Memon, Model-Driven Quality Assurance Techniques for Distributed Real-time and Embedded Systems. In the Proceedings of the OMG Workshop on Distributed Object Computing for Real-time and Embedded Systems. July 12-15, 2004, Reston, VA.
40. Adam Porter, Atif Memon, and Cemal Yilmaz<sup>†</sup>, Don Hinton, Arvind Krishna<sup>‡</sup>, and Douglas C. Schmidt Distributed Continuous Quality Assurance for Distributed and Real-time Systems. In Proceedings of the 4th Annual Workshop on TAO and CIAO. July 2004, Alexandria, VA.
41. Arvind S. Krishna<sup>‡</sup>, Cemal Yilmaz<sup>†</sup>, Atif Memon, Adam Porter, Douglas C. Schmidt, Aniruddha Gokhale and Balachandran Natarajan, A Distributed Continuous Quality Assurance Process to Manage Variability in Performance-intensive Software. In Proceedings of the OOPSLA 2004 Workshop on Component & Middleware Performance, Vancouver, BC, Canada, October 2004.
42. Cemal Yilmaz<sup>†</sup>, Arvind Krishna<sup>‡</sup>, Atif Memon, Adam Porter, Douglas C. Schmidt, Aniruddha Gokhale, and Bala Natarajan, Main Effects Screening: A Distributed Continuous Quality Assurance Process for Monitoring Performance Degradation in Evolving Software Systems, in Proceedings of the 27<sup>th</sup> International Conference on Software Engineering, St. Louis, MO, May 15-21, 2005.
43. Il-Chul Yoon<sup>†</sup>, Alan Sussman and Adam Porter, Improving Productivity by Effectively Launching Complex HPC Applications. In Proceedings of the 2<sup>nd</sup> International Workshop on Software Engineering for High Performance Computing System Applications. St Louis, Mo, May 2005.
44. Alan F. Karr and Adam A. Porter, Distributed Performance Testing using Statistical Modeling, 1<sup>st</sup> International Workshop on Advances in Model-Based Software Testing, St Louis, Mo, May 2005.
45. Murali Haran, Alan Karr, Alessandro Orso, Adam Porter and Ashish Sanil, Applying Classification Techniques to Remotely-Collected Program Execution Data. In the Proceedings of the Joint 10<sup>th</sup> European Software Engineering Conference and 13th ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE 2005). Sept. 2005, Lisbon, Portugal.
46. Cemal Yilmaz<sup>†</sup>, Cagatay Catal, Oya Kalipsiz and Adam Porter, Dagitik Kalite Guvencesi, (Distributed Quality Assurance) Turkish International Symposium on Software Engineering (UYMS), September 2005, Ankara, Turkey.
47. Kenny C. Gross, Scott McMaster<sup>†</sup>, Adam Porter, Aleksey Urmanov and Lawrence G. Votta, Towards Dependability in Everyday Software Using Software Telemetry, In the Proceedings of the 3rd IEEE Workshop on Engineering of Autonomic Systems. Potsdam, Germany. March 2006.
48. Adam Porter and Douglas Schmidt, Distributed Continuous Quality Assurance for Ultra-Large-Scale (ULS) Distributed Real-Time and Embedded Systems, Ultra-Large-Scale Systems Workshop at OOPSLA 2006, Portland, OR. October 2006.
49. Hamid Haidarian Shahri, James Hendler, Adam Porter, "Software Configuration Management Using Ontologies," Proceedings of the 3rd International Workshop on Semantic Web Enabled Software Engineering at the 4th European Semantic Web Conference (ESWC'07), Innsbruck, Austria, June 6-7, 2007.

50. Sandro Fouche<sup>†</sup>, Myra Cohen and Adam Porter. Incremental Adaptive Covering Arrays for Efficient Fault Detection. In the Proceedings of the Joint 12<sup>th</sup> European Software Engineering Conference and 15<sup>th</sup> ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE 2007). Dubrovnik, Croatia. September 2007.
51. Il-Chul Yoon<sup>†</sup>, Alan Sussman, Atif Memon and Adam Porter, Direct-Dependency-based Software Compatibility Testing, In the Proceedings of the Conference on Automated Software Engineering Nov. 2007, Atlanta, Georgia.
52. James Hill, Douglas C. Schmidt, John Slaby, and Adam Porter, CiCUTS: Combining System Execution Modeling Tools with Continuous Integration Environments, Proceedings of the 15<sup>th</sup> Annual IEEE International Conference and Workshops on the Engineering of Computer Based Systems (ECBS), March 31st - 4th April, 2008 Belfast, Northern Ireland.
53. Il-Chul Yoon<sup>†</sup>, Alan Sussman, Atif Memon and Adam Porter, Effective and Scalable Software Compatibility Testing, in Proceedings of the International Symposium on Software Testing and Analysis, Seattle, WA, July 2008.
54. Sandro Fouche<sup>†</sup>, Myra Cohen and Adam Porter, Incremental Covering Array Failure Characterization in Large Configuration Spaces, in Proceedings of the 2009 International Symposium on Testing and Analysis, Chicago, IL, July 2009.
55. Il-Chul Yoon<sup>†</sup>, Alan Sussman,<sup>[SEP]</sup>Atif Memon, and Adam Porter, Prioritizing Component Compatibility Tests via User Preferences,<sup>[SEP]</sup> in Proceedings of the 23<sup>rd</sup> IEEE International Conference on Software Maintenance, Alberta, Canada, 2009.
56. Elnatan Reisner<sup>†</sup> and Charles Song<sup>†</sup> and Kin-Keung Ma and Jeffrey S. Foster and Adam Porter, Using Symbolic Evaluation to Understand Behavior in Configurable Software Systems, in ICSE 2010: Proceedings of the 32<sup>nd</sup> International Conference on Software Engineering, May 2010.
57. Cemal Yilmaz, Emine Dumlu, and Adam Porter, "Program yu'ru'rmelerini sınıflandırmak için donanım ve yazılım ölçümlerini aygıtlarını birleştirme," In the Proceedings of 2010 Yazılım Kalitesi ve Yazılım Geliştirme Araçları Sempozyumu, pp. 279-286, I KU and HHO, Istanbul, Turkey, 2010.
58. Cemal Yilmaz and Adam Porter, Combining Hardware and Software Instrumentation to Classify Program Executions, in Proceedings of the Symposium on the Foundations of Software Engineering, Santa FE, NM, Nov. 2010.
59. Atif Memon, Adam Porter and Alan Sussman, Community-Based, Collaborative Testing and Analysis, FSE /SDP Workshop on the Future of Software Engineering Research, Santa FE, NM, Nov. 2010.
60. Il-Chul Yoon<sup>†</sup>, Alan Sussman, Atif Memon, Adam Porter, Towards Incremental Component Compatibility Testing, in Proceedings of the 14<sup>th</sup> International ACM SIGSOFT Symposium on Component Based Software Engineering, June 2011, Boulder, Colorado, USA.
61. Emine Dumlu, Cemal Yilmaz, Myra Cohen and Adam Porter, Feedback Driven Adaptive Combinatorial Testing, in Proceedings of the International Symposium on Software Testing and Analysis, July 2011, Toronto, Canada.
62. Charles Song, Adam Porter and Jeffrey S. Foster, iTree: Efficiently Discovering High-Coverage Configurations Using Interaction Trees in Proceedings of the 34<sup>th</sup> International Conference on Software Engineering, Zurich, Switzerland, June 2012.

63. Teng Long, Ilchul Yoon, Adam Porter, Alan Sussman and Atif Memon, Overlap and Synergy in Testing Software Components Across Loosely-Coupled Communities, in ISSRE'12 Proceedings of the 23rd IEEE International Symposium on Software Reliability Engineering, Dallas, TX, Nov. 2012.
64. Rick Leathart, Adam Porter, Douglas Schmidt, Michael O'Hare, Harry Crisp, and Barry Laird, "Capability-Based Technical Reference Frameworks for Open System Architecture Implementations," Systems Engineering Conference (SEDC) 20134, Washington DC, April 3rd and 4th, 2014, Chantilly, VA.
65. Teng Long, Ilchul Yoon, Alan Sussman, Adam Porter, Atif Memon, Scalable System Environment Caching and Sharing for Distributed Virtual Machines, in Proceedings of the 2014 High-Performance Grid and Cloud Computing Workshop, May 2014, Phoenix, AZ
66. Enabling Collaborative Testing Across Shared Software Components," by Teng Long, Ilchul Yoon, Atif Memon, Adam Porter, and Alan Sussman, in The 17th International ACM Sigsoft Symposium on Component-Based Software Engineering, 2014.
67. Dasarathy, B., Sullivan, K., Schmidt, D., Fisher, D., Porter, A. The Past, Present, and Future of MOOCs, in Proceedings of the 36th International Conference on Software Engineering, May 31 - June 7, 2014, Hyderabad, India.
68. Mark Grechanik, Qi Luo, Denys Poshyvanyk and Adam Porter, Enhancing Rules for Cloud Resource Provisioning Via Learned Software Performance Models, in Proceedings of the ACM/SPEC International Conference on Performance Engineering. Delft, Netherlands, March 2016.
69. Teng Long, Ilchul Yoon, Adam Porter, Atif Memon, Alan Sussman. Coordinated Collaborative Testing of Shared Software Components, IEEE International Conference on Software Testing, Verification and Validation. Chicago, IL, April 2016.
70. T. Nguyen, U. Koc, J. Cheng, J. S. Foster, and A. A. Porter. iGen: Dynamic Interaction Inference for Configurable Software. In Foundations of Software Engineering (FSE). Seattle, WA, Nov. 2016.
71. Zachary P. Reynolds, Abhinandan B. Jayanth, Ugur Koc, Adam Porter, Rajeev R. Raje, James H. Hill, "Identifying and Documenting False Positive Patterns Generated by Static Code Analysis Tools", SER&IP Workshop in conjunction with ICSE, Buenos Aires, Argentina, 2017.
72. Mikael Lindvall, Adam Porter, Gudjon Magnusson and Christoph Schulze, Metamorphic Model-based Testing of Autonomous Systems, Proceedings of the 2nd International Workshop on Metamorphic Testing, Buenos Aires, Argentina, May 2017.
73. Ugur Koc, Parsa Saadatpanah, Jeffrey S. Foster and Adam A. Porter. Learning a Classifier for False Positive Error Reports emitted by Static Code Analysis Tools, The 1<sup>st</sup> ACM SIGPLAN Workshop on Machine Learning and Programming Languages, Barcelona, Spain, June 2017.
74. Julian Rothermel, Mikael Lindvall, Adam Porter and Sigurthor Bjorgvinsson, A Metamorphic Testing Approach to NASA GMSEC's Flexible Publish and Subscribe Functionality. Proceedings of the 3rd International Workshop on Metamorphic Testing, Gothenberg, Sweden, May 2018.

75. Ugur Koc, Shiyi Wei, Jeffrey Foster, Marine Carpuat and Adam Porter, An Empirical Assessment of Machine Learning Approaches for Triaging Reports of a Java Static Analysis Tool, Proceedings of the International Conference on Software Testing, Xian, PRC, April 2019.
76. Rohan Reddy Mekala, Gudjon Einar Magnusson, Adam Porter, Mikael Lindvall, and Madeline Diep, Metamorphic Detection of Adversarial Examples in Deep Learning Models With Affine Transformations, IEEE/ACM 4th International Workshop on Metamorphic Testing (MET), Montreal, Canada, May 2019.
77. K. Ternus, D. Nasko, D. Albin, R. Elworth, J. Lu, G. Godbold, J. Selengut, F. Hong, N. Albright, C. Hulme-Lowe, I. Mayes, D. Bowman, C. Grahlmann, P. Muthu, O. Lungu, V. Palsikar, K. Weber, Advait Balaji, Christian Diaz, Nidhi Shah, S. Turner, C. Hewitt, L. Parke, M. Berrondo, S. Kaufmann, J. Byerly, J. Hauzel, M. Lindvall, M. Diep, C. Jermaine, A. Porter, M. Pop, T. Treangen, Not All Genes of Concern Come from Biological Select Agents or Toxins, SynBioBeta, San Francisco, CA, October, 2019 (poster).
78. Dreycey Albin, Dan Nasko, R. A. Leo Elworth, Jacob Lu, Advait Balaji, Christian Diaz, Nidhi Shah, Jeremy Selengut, Chris Hulme-Lowe, Pravin Muthu, Gene Godbold, Mikael Lindvall, Madeline Diep, Adam Porter, Mihai Pop, Krista Ternus, and Todd Treangen, SeqScreen: a biocuration platform for robust taxonomic and biological process characterization of nucleic acid sequences of concern, IEEE Workshop on Biological Ontologies and Knowledge Bases, Nov. 2019, San Diego.
79. S. Aghayee, Z. Bowen, G. Magnusson, M. Diep, M. Lindvall, A. Porter, W. Losert, Brain platform: A step towards standardized analysis of neuroimaging data, Neuroscience 2019 (Poster #525.15)
80. Samuel Huang, Madeline Diep, Kuk Jang, Elizabeth M Cherry, Flavio H Fenton, Rance Cleaveland, Mikael Lindvall, Rahul Mangharam, and Adam Porter, Towards Automated Comprehension and Alignment of Cardiac Models at the System Invariant Level, The 11<sup>th</sup> International Conference on Computational Systems-Biology and Bioinformatics (CSBio 2020), Bangkok, Thailand, 2020

## **Refereed Conference Proceedings Submitted**

### **Unrefereed Conference Proceedings**

1. Dewayne Perry, Adam Porter and Lawrence Votta, Evaluating Workflow and Process Automation in Wide-Area Software Development, NSF Workshop on Workflow and Process Automation in Information Systems: State-of-the-Art and Future Directions, Athens, GA, May 1996. (unrefereed).
2. Dewayne Perry, Adam Porter, and Lawrence Votta, A Primer on Empirical Studies, In Proceedings of the Nineteenth International Conference on Software Engineering, Boston, MA, May 1997. (unrefereed tutorial summary).
3. Adam Porter. Leveraging Program Multiplicities to Support (Distributed Continuous) Quality Assurance. In Dagstuhl Seminar Proceedings 05261 Multi-Version Program Analysis. Wadern, Germany. June 2005, (unrefereed abstract).
4. Adam Porter. Towards a Distributed Continuous Certification Process. In Proceedings of the 2007 Workshop on Distributed and Parallel Realtime Systems:

Special Session on Certification of Dynamic and Adaptive Systems. March 2007, Long Beach, CA, (unrefereed abstract).

5. Advances in Multicore Software Engineering, In Software Engineering Notes, July 2009.
6. Evaluating Interaction Patterns in Configurable Software Systems, Elnatan Reisner, Charles Song, Ma, Kin-Keung, Jeffrey S. Foster, Adam Porter, UM Computer Science Department, CS-TR-4940, June 2009.

## Patents

- Detecting and correcting a failure sequence in a computer system before a failure occurs. United States Patent #7,181,651. With Gross, Kenny C. and Votta, Lawrence G. Jr., Awarded Feb. 2007.

## Grants and Contracts

- International Travel Award, National Science Foundation CCR-921410, \$1000, Feb. 1992, PI.
- Measurement-Driven Modeling to Direct Software Maintenance, General Research Board, University of Maryland, \$5400, July 1992-June 1993, PI.
- Forecasting Software Error Classes, IBM, \$23,500, July 1992-December 1992, PI.
- Formal Requirements Inspections IBM, \$23,500, July 1993-December 1994, PI.
- Empirical Investigation of Software Inspections, General Research Board, University of Maryland, \$6500, July 1995-June 1996, PI.
- Faculty Early Career Development Award: Empirical Investigation of Software Inspections, National Science Foundation, CCR-9501354, \$128,000 Aug. 1995-Aug 1998, PI.
- The Cycle-time Reduction Laboratory, AT&T Foundation, \$55,000, January 1996, PI.
- Code Decay in Legacy Software Systems: Measurement, Models and Statistical Strategies, National Science Foundation, SBR-9529926, \$255,000 (\$7400 to UMD), Jan. 1996- March 31, 2000, with Stephen Eick and Alan Karr. (PI on subcontract).
- Scalable Program-Analysis-Based Testing and Maintenance: Infrastructure and Experimentation National Science Foundation, CCR-9707792, \$1,612,531 (\$456407 to UMD), September 1997-Aug. 2002, Co-PI with Mary Jean Harrold, Renee Miller, and Gregg Rothermel.
- Empirical Investigations of Large-Scale Regression Testing, National Science Foundation, CCR-0098158, \$275,000, Sep. 2001 – Aug. 2005, PI.
- Workshop on New Visions for Software Design and Productivity, National Science Foundation, CCR-0138554, \$20,000, Jan. 2002 – Dec. 2002, Co-PI with Janos Sztipanovitz.
- Collaborative Research: ITR: Acquiring Accurate Dynamic Field Data Using Lightweight Instrumentation, National Science Foundation CCR-0205265, CCR-0205118, CCR-0205429, CCR-0205627, and CCR-0205422, \$2,250,000

- (\$606,000 to UMD), PI with Alan Karr, Douglas Schmidt, David Notkin, Mary Jean Harrold, Alessandro Orso, and Richard Lipton. Sept. 2002 – Aug 2007.
- Lightweight, Distributed Dynamic Analysis Techniques, DARPA, \$50,000. Oct. 2002 – March 2003, PI.
  - Sun Microsystems, Gift. \$20,000 + ~\$20,000 in equipment. 2004, PI.
  - ONR-DURIP: A Testbed for Distributed, Continuous Quality Assurance of DoD Combat Systems, Office of Naval Research N00014-05-1-0421, \$206,136 (\$103,086 to UMD) for equipment. Co-PI with Aniruddha Gokhale, Atif Memon, Douglas Schmidt and Balachandran Natarajan. May 1, 2005 – April 30, 2006.
  - Sun Microsystems Contributory Grant# EDU-Q206-176A, \$10,048.07 for equipment. Nov. 2005, Co-PI with Atif Memon.
  - Around-the-World, Around-the-Clock Software Performance Testing, General Research Board, University of Maryland, \$8750, Summer 2006, PI.
  - REU Supplement to Collaborative Research: ITR: Acquiring Accurate Dynamic Field Data Using Lightweight Instrumentation, National Science Foundation, CCF-0630831, \$6000. June 2006 – August 2006, PI.
  - Software Wind Tunnel (SWiT) Capabilities, Lockheed Martin ATL, \$25,000, 10/12/2006 – 1/31/2007, PI.
  - Using Distributed Continuous Quality Assurance to Support Certification of Dynamic Systems, Raytheon Inc., \$10,000. 12/2006-1/2007, PI.
  - Rapid Design-Time Certification of Discrete System Configurations for DARPA IXO Seedling, Raytheon Inc., \$50,000, 2/2007 – 6/2007. PI.
  - CPA-SEL: Testing Systems with Large and Complex Test Spaces: Techniques, Tools and Empirical Studies, National Science Foundation, CCF-0811284, \$350,000, 6/1/08-5/31/2011, PI.
  - Location Aware Polling Service, Google Inc., equipment, \$8700. PI with Douglas Schmidt.
  - Project Hawaii, Microsoft, equipment, \$8000 (est.), with Ashok Agrawala
  - SHF: Small: Empirical Studies, Principles and Techniques for Software Systems with Complex Configuration Spaces, CCF-1116740, \$500,000, 7/1/11-6/30/14, Co-PI with J. Foster.
  - DURIP: Knowledge Cloud Computing Research, DoD, \$250,000, with Christopher White (Virginia Technical University) and Aniruddha Gokhale (Vanderbilt U).
  - Mobile Phone Equipment Gift, Google Inc., equipment, \$5000 (est.).
  - Amazon Web Services Education Grant, Amazon Inc., \$4500 (computing credit)
  - Research Development, Test and Evaluation (DASN RDT&E) Open Architecture, PWS 5-344AF, \$200,000, 10/12/11-9/30/12, through SEI as Senior Scientist
  - Research Development, Test and Evaluation (DASN RDT&E) Open Architecture, PWS 5-344AF, \$200,000, 10/12/12-9/30/13, through SEI as Senior Scientist.
  - Tomorrow's CS Education, private donors, up to \$1,000,000, 9/2013-8/2018. Led proposal preparation with Benjamin Bederson
  - Capability-Based Technical Reference Frameworks for Open System Architecture Implementations, VU #2520-S1, \$10,000, USAF FA8075-12-D-0001, 6/3/14-9/11/14

- CCE STEM: Finding Practices that Cultivate Ethical Computing in Mobile and Wearable Application Research & Development, National Science Foundation, SES-1449351, \$600,000, 1/1/15-12/31/19, with Katherine Shilton and Susan Winter
- MATURE: Architectural Support for Certifiable Autonomous Systems, NAVAL AIR WARFARE CENTER, N00421-13-2-M018, \$56,000, 1/15-12/15
- MITRE FY15 Seed Proposal: Tools for Automated Binary Rewriting to Protect Programs from Side Channel Attacks, Mitre Corp., \$25,000, 7/15-9/15
- MITRE FY15 Seed Proposal: Automotive Security Testbed, MITRE Corp., \$18,910, 7/15-9/15
- MATURE: Architectural Support for Certifiable Autonomous Systems, NAVAL AIR WARFARE CENTER, N00421-13-2-M018, \$80,000, 10/15-9/16
- MITRE FY16 Seed Proposal: A Scalable Tool for Security Analysis of Modern Web Applications, MITRE Corp., \$78,503, 02/08/2016 - 09/30/2016
- Ford Motor Company University Research Program, \$45,000, 6/2016
- Model-Based Testing in Simulation Environments, Northrop Grumman, \$50,000, 11/2016
- SCC-Planning: How Can Investments in Smart Cities Technologies Improve the Lives of Low-Income, Inner-City Residents, Senior Personnel, National Science Foundation, CNS-1737495, \$100,000, 9/1/2017-8/31/2018
- Increasing Autonomous Systems Trustworthiness with Risk-based Decision Making & The Science and Practice of Test, Evaluation and Verification and Validation for Autonomous Systems (TEVV), NAVAIR, \$217,293, 9/1/2017-12/31/2018
- National Science Foundation. Compositional, Approximate and Quantitative Reasoning for Medical Cyberphysical Systems. CNS-1446365 (and linked proposals) \$5,100,000, May 2015–April 2021, with Elizabeth Cherry (Rochester Institute of Technology), Ed Clarke (CMU), Sanjay Dixit (UPenn), Sicun Gao (CMU), James Glimm (SUNY Stony Brook), Richard Gray (Food and Drug Administration), Flavio Fenton (Georgia Tech), Radu Grosu (Technical University of Vienna), Rahul Mangharam (UPenn), Mikael Lindvall (Fraunhofer), Scott Smolka (SUNY Stony Brook).
- DARPA Prometheus, Contagious Phenotypes of Acute Respiratory Infection: Identification, Characterization, and Biomarkers (Phase II), Senior Personnel (PI on subaward), \$2,500,000, 9/01/17-12/31/18
- National Institutes of Health, Readout and Control of Spatiotemporal Neuronal Codes for Behavior, Award No. 5U19NS107464-02, Senior Personnel (PI on subaward), est. \$20,000,000
- National Institutes of Health, HealthyMe/MiSalud Smartphone Application: Identifying Mechanisms to Engage African Americans and Hispanics in Personal Health Libraries, Prime Award No. R01LM013039, Senior Personnel (PI on subaward), est. \$1,400,000, 9/18/18 - 5/31/22
- NIIMBL, A Microlearning Capability for a Busy Biopharmaceutical Workforce, PI, \$99,620, 1/1/19-6/30/19

- State of South Carolina, Telehealth Integration and Decision Support for South Carolina, PI, \$309,000, 1/1/2019-12/31/2019
- NIIMBL, “SPIDER Project 2.0”, \$596,216, PI, with Judy Staveley, Alex Toda, Suresh Nulu, Ryan Barton, Jim DeKloe, Sue Roberts, Mike Hourugan, 9/2019-5/2020
- DSS, HQ0034-18-D-0005, HQ003419F0226, Global Supply Chain Challenge, \$64,703, 4/15/19 - 10/14/19, Senior Personnel
- USG, HQ0034-18-D-0005, Industrial Security Infrastructure Framework, \$479,322, Senior Personnel
- Naval Air Warfare Center Aircraft Division - Pax River, N0042119C0033, E-VERIFY: Multi-Domain Autonomous Defense Against Surface Swarms (MADASS), 09/30/2019- 09/29/2020, \$306,911, Co-PI
- National Science Foundation, RAISE: C-Accel Pilot - Track A1 (Open Knowledge Network): Exploiting Financial and Economic Data: Business OKN, OIA-1937153, 9/1/2019-5/31/2020, \$999,117, Senior Personnel (PI on subaward)
- National Institutes of Health, NIH R01-AI-100947, Algorithms and Software for the Assembly of Metagenomic Data, Senior Personnel (PI on subaward), \$2,644,000, 12/1/2019-11/30/2023
- Army Research Office, Human-Agent Teaming on Intelligence Tasks, #W911NF-20-1-0214, 1/1/2020-12/30/2022, \$616,700
- Northrop Grumman, Detecting and Neutralizing Adversarial Examples at Runtime, 6/1/2020-5/31/2021, \$56,000
- National Science Foundation, SHF: Small: An Automated Full-Lifecycle Approach for Improving the Development and Use of Static Analysis, CCF-2007314, 9/1/2020-8/31/2023, \$500,000
- Selected projects led at Fraunhofer USA (UMD-affiliated applied research center), involving UMD faculty and/or students
  - NSF, CyberCardia
  - NSF, Pocket Security
  - DARPA, Active Authentication
  - NIH, Crowd Coding in the Brain: 3D Imaging and Control of Collective Neuronal Dynamics
  - Department of Homeland Security, StampOut
  - John Deere & Company, Secure CAN
  - DARPA, Prometheus
  - IARPA, FunGCAT
  - IARPA, Janus

## **Grants and Contracts in Submission**

- Multiple proposals in submission

## **Fellowships, Prizes and Awards**

- Advance Leadership Fellow, UMD, 2018-2019
- UMD, College of Computer, Mathematics and Natural Sciences Board of Visitors Creative Educator Award, 2015. This annual award is intended to “encourage and

recognize significant creative and innovative contributions to the educational experience of undergraduate students.”

- Mobile Learning Fellow, 2010, UMD OIT/Center for Teaching Excellence.
- Recognized as one of 12 (out of 334) top technical reviewers for the ACM Transactions on Software Engineering for 2007-2008.
- A.A. Porter and R.W. Selby, "Empirically Guided Software Development Using Metric-Based Classification" was listed as one of the 20 most-widely cited articles published in the 25-year history of IEEE Software.
- UMD Graduate Research Board Summer Award, 2006
- Senior Member, ACM, 2006.
- Senior Member, IEEE, 2003.
- NSF Faculty Early Career Development Award, 1995–1998.
- Dean’s Award for Excellence in Teaching, University of Maryland, CMPS, 1995.
- UMD Graduate Research Board Summer Award, 1993
- Howard Hughes Ph.D. Fellow, Hughes Aircraft Co., Fullerton, CA, 1990–91.
- Patricia Roberts Harris Fellow, UC/Irvine, CA, 1988–89.
- Faculty Mentor Program Fellow, UC/Irvine, CA, 1987–88.
- University of California Regents Fellow, UC/Irvine, CA, 1986–87.

## **Editorial Boards**

- 1997 – 2003: Associate editor, ACM Transactions on Software Engineering Methodology.
- 2006 – 2011: Associate editor, IEEE Transactions on Software Engineering
- 2015 – 2019: Member Editorial Board, Learning Health Systems

## **Teaching and Advising**

### ***Courses Taught***

- Spring 1992: CMSC 330: Organization of Programming Languages, 100 students
- CMSC 838P: Special Topics in Software Engineering, 25 students
- Fall 1992: CMSC 330: Organization of Programming Languages, 90 students
- Spring 1993: CMSC 630: Theory of Programming Languages, 25 students
- Fall 1993: CMSC 630: Theory of Programming Languages, 30 students
- Spring 1994: CMSC 435: Software Design and Development, 40 students
- Fall 1994: CMSC 330: Organization of Programming Languages, 60 students
- Spring 1995: CMSC 435: Software Design and Development, 45 students
- Fall 1995: CMSC 330: Organization of Programming Languages, 130 students
- Spring 1996: CMSC 838P: Wide-Area Software Development, 25 students
- Fall 1996: MSWE 607: Software Life Cycle Methods and Techniques, 27 students
- Spring 1997: Fall 1999: CMSC 435 Software Design and Development, 40 students
- Fall 1997: CMSC 435: Software Design and Development, 40 students
- Spring 1998: CMSC 330: Organization of Programming Languages, 100 students

- Fall 1999: CMSC 435: Software Design and Development, 40 students
- Spring 2000: CMSC 838P: CMSC 838Q - Object-Oriented Design Patterns for Distributed and Concurrent Systems, 5 students
- Fall 2000: CMSC 435: Software Design and Development, 45 students
- Spring 2001: CMSC 435: Software Design and Development, 45 students
- Fall 2001: CMSC 433: Programming Language Technologies and Paradigms, 40 students
- Spring 2002: CMSC 433: Programming Language Technologies and Paradigms, 50 students
- Fall 2002: CMSC 433: Programming Language Technologies and Paradigms, 45 students
- Spring 2003: CMSC 838P: Internet-Scale Software Engineering: Leveraging Fielded Resources, 10 students.
- Fall 2003: CMSC 433: Programming Language Technologies and Paradigms, 40 students
- Spring 2004: CMSC 838P: Software Engineering: Remote Analysis and Measurement of Software Systems, 5 students.
- Fall 2004: CMSC 433: Programming Language Technologies and Paradigms, 52 students
- Spring 2005: CMSC 838P: Research in Software Engineering, 15 students
- Fall 2006: CMSC 838P: Research in Software Engineering, 8 students
- Fall 2007: CMSC 634: Empirical Research Methods for Computer Science, 18 students
- Spring 2008: CMSC 433: Programming Language Technologies and Paradigms, 34 students
- Fall 2008: CMSC 433: Programming Language Technologies and Paradigms, 32 students
- Spring 2009: CMSC 433: Programming Language Technologies and Paradigms, 34 students
- Fall 2009: CMSC 433: Programming Language Technologies and Paradigms, 32 students
- Spring 2010: CMSC 498I: Selected Topics in Computer Science: Programming the iPhone, 32 students (with Chuck Pisula and Evan Golub)
- Spring 2010: CMSC 838Z - Advanced Topics in Programming Languages: Research in Software Engineering, 6 students
- Fall 2010: CMSC 498I: Selected Topics in Computer Science: Programming the iPhone, 19 students
- Fall 2010: CMSC 498G: Selected Topics in Computer Science: Programming Android, 9 students
- Spring 2011: CMSC 433: Programming Language Technologies and Paradigms, 40 students
- Fall 2011: CMSC 436: Programming Handheld Devices, 44 students
- Spring 2012: CMSC 433: Programming Language Technologies and Paradigms, 44 students
- Fall 2013: CMSC 436: Programming Handheld Systems, 50 students

- Spring 2014: CMSC 433: Programming Language Technologies and Paradigms, 50 students
- Fall 2014: CMSC 436: Programming Handheld Systems, 50 students
- Spring 2015: CMSC 433: Programming Language Technologies and Paradigms, 50 students
- Fall 2015: CMSC 436: Programming Handheld Systems, 55 students
- Fall 2016: CMSC 436: Programming Handheld Systems, 85 students
- Fall 2017: CMSC 436: Programming Handheld Systems, 88 students
- Fall 2018: CMSC 436: Programming Handheld Systems, 145 students
- Fall 2019: CMSC 436: Programming Handheld Systems, 160 students
- Fall 2020: CMSC 436: Programming Handheld Systems, 210 students

## Teaching Innovations

- **Experimental Laboratory Exercises:** Developed classroom laboratory exercises in which students experimentally test hypotheses about software engineering processes. The students also receive instruction on statistics which they use to analyze the data from their experiments in the classroom. I have developed four such laboratories which are currently being used by several professors around the world.
- **Very-Large Scale Software Development.** Redesigned CMSC 435 so that students must work together to develop one very large-scale software package. Projects have been on the order of 50,000 lines of code (with J. Purtilo).
- **The Cycle-Time Reduction Laboratory** - Won funding to create an educational lab for developing computer-supported cooperative work applications. This lab is used in conjunction with the CMSC 435 course.
- **Revising Graduate Software Engineering course.** Redeveloped course materials and changed teaching style to stress a “conversational” learning approach in which students take a greater role in the classroom learning process.
- **Developed new course on Programming SmartPhone Applications.** Working with Evan Golub (UMD) and Chuck Pisula (Apple Inc.) I created a new course on programming Apple iPhone applications.
- **Developed new course on Programming SmartPhone Applications.** I created a new course on programming Android smartphone applications. This course is listed on Google’s University Consortium Website (<https://developers.google.com/university/courses/>)
- **Developer flipped classroom approach for CSMC436, Programming Handheld Systems.** I created videotaped lectures and quizzes to support course. These are available at [learn-android.appspot.com](http://learn-android.appspot.com). This course is listed as exemplar on Google’s Google CourseBuilder website at <https://code.google.com/p/course-builder/>
- **Developed and delivered MOOC course on the Coursera MOOC platform entitled, Programming Handheld Systems with Android.** This course has had 1M+ students enrolled from all over the world. The course was designed as part of a multi-course sequence, delivered with Dr. Douglas Schmidt and Dr. Jules White of

Vanderbilt University. This was the first trans-institutional MOOC ever offered on the Coursera platform.

- Developed online Masters of Software Engineering program for Brandman University.

## **Advising: Research Direction**

### ***High School Projects***

- Chimeziri Oneywa, 2006

### ***Undergraduate / MS Projects***

- Jacob Goodrich (U. of Washington with David Notkin), 2000
- Daniel Allen (U. of Washington with David Notkin), 2000
- Shannon Hoffswell (U. of Washington with David Notkin), 2000
- Hilena Hailu, 2001
- Vidhi Bhansali, 2002
- Lee Ellis, NSF-REU summer 2006, independent study Fall 2006
- Matthew Dzaman (Georgetown), 2008
- Andre Rasevic, 2010
- Sameet Narula, 2011
- Robert Henderson, 2011
- Pratik Mathur, 2011
- Kyle Nisson, 2013
- Marcus Jackson, 2014
- Omid Ghenatnevi, 2015
- Andy Chung, 2015
- Kimberley Painter, 2015
- Pauline Masigla, 2015
- Abubakr Suliman, 2015
- Arjuna Ariyaratne, 2015
- Evan Zhang, 2015
- Michael Daisey, 2015
- Arlene Chiu, 2015
- Jeffrey Feng, 2016
- Kyle Kelly, 2016
- Nitin Balachandran, 2016
- Sadie Isakower, 2016
- Spencer Sokoloski, 2016
- Woody Haddad, 2016
- Gudjon Magnusson, 2016
- Gowtham Raj, 2016
- Kyle Kelley, 2016
- Zheng Yan, 2016
- Sigurthor Bjorgvinsson, 2017
- Gudjon Magnusson, 2017

- Janus Kristjansson, 2019

***Doctoral Committee***

- William Thomas
- Jianhui Tian
- Eduardo Ostertag Jenkins
- William Martschenko
- Christine Hofmeister
- Salwa Abdel-Hafiz
- Elizabeth White
- Chen Chen
- Carolyn Seamans
- Jim Bowman
- Jim Welch
- Kritchalach Thitikamol
- Mehrdad Hassani
- Daniel Yankelovich
- Manuel Rodriguez
- Daniel Savarese
- Hyeonsang Eom – 5/2003
- Hyunmo Kang - 12/2003
- Lance Good – 12/2003
- Jeremy Mason – 12/2004
- Jamie Spacco – 8/2006
- Arvind Krishna – 11/2005
- Qing Xie - 8/2006
- Ankush Varma – 4/2007
- Amy Karlson - 11/2007
- Christian Halaschek-Wiener - 11/2007
- Scott McMaster – 4/2008
- Xun Yuan – 8/2008
- Penelope Brooks – 9/2009
- Hamid Haidarian Shahri – 7/2011
- Nick Rutar – 8/2011
- Gleneesha Johnson - 4/2014
- Gary Johnson - 2/2015
- Christof Schulze – 12/2017
- Nicholas Gramsky – 11/2018
- Moshe Katz
- Heba Aly – 8/2019
- Samuel Huang – 12/2019

***Doctoral Students: Primary Advisor***

- Harvey Siy, Ph.D. 1996, First position – AT&T/Lucent Bell Laboratories

- Jung Min Kim, Ph.D. 2001. First position - Hyundai Inc.
- Cemal Yilmaz, Ph.D. 2005. First position - IBM TJ Watson Research Center
- Sandro Fouche', Ph.D. 2010. First position – Towson University
- Il-Chul Yoon, Ph. D. 2010. (Co-advised with Alan Sussman and Atif Memon). First position -UMD Robert Smith School of Business)
- Charles Song, Ph.D. 2011. First position – Fraunhofer Center for Experimental Software Engineering
- Teng Long, Ph.D. (Co-advised with Sussman and Memon). First position – Google
- Ugur Koc. (Co-advised with Jeffrey Foster). First position – Amazon
- Sai Yerramreddy

## **Service**

### **Conferences**

- Program Committee, Conference on Computer Assurance, Gaithersburg, MD, 1993.
- Session Chair, NASA - SEL Workshop. Greenbelt, MD, 1993.
- Program Committee and Session Chair, NASA - SEL Workshop. Greenbelt, MD, 1994.
- Program Committee, International Symposium on Software Metrics, Berlin, Germany, 1995.
- Program Committee and Session Chair, International Workshop on Empirical Studies of Software Maintenance, Monterey, CA, 1996.
- Program Committee and Session Chair, International Conference on Software Engineering, Boston, MA, 1997.
- Program Committee, Conference on Domain-Specific Languages, Santa Barbara, CA, 1997.
- Program Committee, International Workshop on Empirical Studies of Software Maintenance, Bari, Italy, 1997.
- Program Committee, International Conference on Software Engineering, Kyoto, Japan, 1998.
- Program Committee, International Conference on Software Engineering, Los Angeles, CA, 1999.
- Program Committee, Symposium on the Foundations of Software Engineering, San Diego, Nov. 2000.
- Program Committee, International Conference on Software Engineering, Toronto, Canada, May 2001.
- Program Committee, Symposium on the Foundations of Software Engineering, Charleston, SC, Nov. 2002.
- Program Committee, International Conference on Software Engineering, Portland, OR, May 2003.
- Co-organizer, Workshop on Remote Analysis and Measurement of Software Systems (RAMSS) at ICSE-2003, Portland, Oregon, May 9, 2003.
- Co-organizer, 2nd Workshop on Remote Analysis and Measurement of Software Systems (RAMSS) at ICSE-2004, Edinburgh, Scotland, UK, May 2004.

- Co-organizer, International Workshop on Software Engineering for High Performance Computing System (HPCS) Applications, Monday, May 2004.
- Co-organizer, 2<sup>nd</sup> International Workshop on Software Engineering for High Performance Computing System (HPCS) Applications) at ICSE-2005, St. Louis, MO, May 2005.
- Program Committee, 11<sup>th</sup> International Software Metrics Symposium. September 2005, Como, Italy.
- Program Committee, 13th Asia Pacific Software Engineering Conference, Bangalore, India, Dec. 2006.
- Program Committee, International Conference on Empirical Software Engineering and Measurement (ESEM 2007), Madrid, Spain, September 2007.
- Co-organizer, Special Session on: Certification of Dynamic and Adaptive Systems at The International Workshop on Parallel and Distributed Real-Time Systems, Long Beach, CA, March 2007.
- Program Committee, 3<sup>rd</sup> International Workshop on Software Engineering for High Performance Computing Applications, Minneapolis, MN, May 2007.
- Program Committee, Workshop on Automating Service Quality, Atlanta, Georgia, USA, Nov. 2007.
- Program Committee, First India Software Engineering Conference (ISEC2008), Hyderabad, Feb. 2008.
- Program Committee, First International Workshop on Multicore Software Engineering, Leipzig, Germany, March 2008.
- Program Committee Sixth International Workshop on Dynamic Analysis (WODA 2008), Seattle, WA, July 2008.
- Program Committee: ACM SIGSOFT 2008 / FSE 16 Doctoral Symposium, Atlanta, GA, Nov. 2008.
- Program Committee, Second International Workshop on Multicore Software Engineering, Victoria, BC, Canada, March 2009.
- Program Committee, IEEE International Symposium on Software Reliability Engineering (ISSRE 2009), Bangalore-Mysore, India, Washington, November 15-18, 2009.
- Program Committee, The 11th International Conference on Agile Software Development, Trondheim, Norway, June 1-4, 2010.
- Program Committee, 1<sup>st</sup> International Workshop on Regression Testing, March 2011, Berlin, Germany
- Program Committee, The 12th International Conference on Agile Software Development, Madrid, Spain, May 10-13, 2011.
- Program Committee, "New Ideas and Emergent Results" (NIER) track at ICSE'11, May 2011.
- Program Committee, Ninth International Workshop on Dynamic Analysis, July 2011.
- Program Committee, 12th International Conference on Agile Software Development, Madrid, Spain, May 2011.
- Program Committee, 24th IEEE Conference on Software Engineering Education and Training, Waikiki, Honolulu, Hawaii, May 22, 2011.

- Program Committee, The 2nd International Workshop on Regression Testing (Regression 2012), Quebec, Montreal, Canada, April 2012.
- Program Committee, 13th International Conference on Agile Software Development, Malmo, Sweden, May 2012.
- Program Committee, International Conference on Software Engineering, Zurich, Switzerland, May 2012.
- Program Committee, First Intl. Workshop on Conducting Empirical Studies in Industry (CESI 2013), May 2013.
- Program Committee, 2nd International Workshop on Release Engineering (RELENG), Mountain View, CA, April 2014.
- Program Committee, Tutorials and Technical Briefing subcommittee, International Conference on Software Engineering, Hyderabad, India, June 2014.
- Program Committee, International Workshop on the Engineering of Mobile-Enabled Systems Hyderabad, India, June 2014.
- Program Committee, First Intl. Workshop on Conducting Empirical Studies in Industry (CESI 2014), Hyderabad, India, June 2014.
- Program Committee, The 15th International Conference on Agile Software Development May 26-30, 2014, Rome, Italy
- Program Committee, International Workshop on Complex Faults and Failures in Large Software Systems, November 2014, Hong Kong, PRC.
- Program Committee, Second Intl. Workshop on Conducting Empirical Studies in Industry (CESI 2015), Florence, Italy, May 2015.
- Program Committee, International Workshop on Complex Faults and Failures in Large Software Systems, Florence, Italy, May 2015.
- Program Committee, 3rd International Workshop on Release Engineering (RELENG), Florence, Italy, May 2015.
- Program Committee, International Conference on Software Engineering, Buenos Aires, Argentina, May 2017.
- Program Committee, IEEE Software Technology Conference, Gaithersberg, MD, Sept. 2017.
- Program Committee, Programming Languages Track at the 33rd ACM Symposium on Applied Computing, Pau, France, 9– 13 April 2018
- Program Committee, The 11th IEEE International Conference on Software Testing, Validation, and Verification, Vasteras, Sweden, April 2018
- Program Committee, ESEC/FSE18-NIER, The 26th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering, New Ideas and Emerging Results, Lake Buena Vista, FL, November 2018
- Program Committee, 41st ACM/IEEE International Conference on Software Engineering, Montreal, QC, Canada, May 2019
- Program Committee, IEEE International Conference on Software Testing, Xi'an, China, May 2019
- Program Committee, Programming Languages Track for the 34<sup>th</sup> ACM Symposium On Applied Computing, Nicosia, Cyprus, April, 2019

- Program Committee, IEEE International Conference on Software Testing, Porto, Portugal, May 2020
- Program Committee, Programming Languages Track for the 35<sup>th</sup> ACM Symposium On Applied Computing, Brno, Czech Republic, April, 2020

### **Funding Review Panels**

- National Science Foundation 1997
- National Science Foundation 2001
- National Science Foundation 2009
- National Science Foundation 2012
- National Science Foundation 2014
- National Science Foundation (2 panels) 2016
- National Science Foundation 2018

### **Professional Service**

#### ***University***

- 2008-2009 - Search Committee Office of Information Technology Director of Software Development
- 2009-2011 – CMPS/CMNS APT Committee
- 2011-2013 – UMIACS Web Visionary (support redesign on institute’s web presence).
- 2013-2014 - Search Committee for Associate Provost and Director for the Teaching and Learning Transformation Center
- 2015-present – UMD Information Technology Council
- 2016-2019 – Chair of the UMD Information Technology Council Infrastructure Working Group
- 2018- Search Committee for UMD CIO
- 2018 – present – Software Engineering Advisor, OAEE program, College of Engineering

#### ***Department***

- 1991-1992 - Comprehensive exam development
- 1992-1993 - Comprehensive exam development
- 1992-1993 - Graduate Student Orientation
- 1992-1993 - Graduate Student Admissions Committee
- 1992-1993 - Faculty advisor: Student Chapter Association for Computing Machinery
- 1993-1994 - Faculty advisor: Student Chapter Association for Computing Machinery
- 1993-1994 - Directed comprehensive exams for SE/PL field committee
- 1994-1995 - Faculty advisor: Student Chapter Association for Computing Machinery
- 1994-1995 - Comprehensive exam development

- 1995-1996 - Faculty advisor: Student Chapter Association for Computing Machinery
- 1995-1996 - Teaching Evaluation Committee
- 1996-1997 - Department Council
- 1999-2001 - Department Council
- 2000-2001 - Department Council
- 2000-2001 - Hiring Committee
- 2000-2001 - Proposal development for information technology degree program
- 2000-2001 - Committee for Hinman CEO's program
- 2000-2001 - Committee for professional masters degree in computer science
- 2000-2001 - Department Council
- 2001-2002 - Department Council
- 2001-2002 - Salary Committee
- 2001-2002 - Faculty Retreat presentation on limiting enrollment
- 2001-2002 - APT review
- 2002-2003 - Committee on revising undergraduate curriculum
- 2002-2003 - APT Review
- 2003-2004 - Lab committee
- 2003-2004 - Teaching Evaluation Committee
- 2004-2005 - Lab committee
- 2004-2005 - Dean's Fellowship for Outstanding Graduate Student selection committee
- 2006-2008 - Chaired committee to evaluate changes to undergraduate curriculum
- 2007-2008 - Host/Mentor to Prof. Mei Hong of Sichuan University, PRC
- 2007-2008 - APT committee
- 2007-2008 - APT review
- 2008-2009 UMIACS APT committee
- 2008-2009 CS Salary Committee
- 2008-2009 Review Committee ACM Dissertation Award
- 2008-2009 Middle States Evaluation Ph.D. defense subcommittee.
- 2009-2010 - Host/Mentor to Prof. Qihui Yang of Sichuan University, PRC
- 2009-2010 - Middle States Evaluation of CMSC 737.
- 2009-2010 - APT committee (for external applicant)
- 2010-2011 - APT committee
- 2013-2014 - APT Committee
- 2013-2014 CS Education for Tomorrow program director
- 2013-2014 - Junior Faculty Mentor
- 2013-2014 - Search Committee for System Administrator
- 2014-2015 - CS Education for Tomorrow program director
- 2015-2016 - UMIACS APT committee
- 2016-2017 - Faculty Merit Review Committee
- 2016-2018 - Middle States Graduate Committee
- 2018-2019 Faculty Hiring Committee
- 2019-2020 Professorial Faculty Merit Committee

- 2019-2020 CS Faculty Search Committee (chair)
- 2019-2020 SE/PL Field Committee Chair
- 2019-2020 Learning Outcome Assessment Committee
- 2019-2020 Middle States Graduate Committee
- 2020-2021 Professorial Faculty Merit Committee
- 2020-2021 Teaching Evaluation Committee

### **External**

- 2007-2008 APT Committee Georgetown University
- 2008-2009 APT Committee Georgetown University
- 2008-present Member of Scientific Advisory Committee, Center for Applied Software Engineering, Free University of Bolzano-Bozen
- Instructor, Case Summer School On Applied Software Engineering Applied Software Process Management And Testing <sup>[11]</sup><sub>SEP</sub> July 6-10, 2009, Bozen/Bolzano, Italy
- Short course, May-June 2010, Free University of Bolzano-Bozen, Bozen/Bolzano, Italy
- Short course, June 2010, Leopold-Franzens-Universität Innsbruck, Innsbruck, Austria
- Short course, July 2011. Programming the Android Platform, Sichuan University, PRC.
- Founding Co-Chair, SIGSOFT Outstanding Doctoral Dissertation Award program. 2011
- Carnegie Mellon University, Software Engineering Institute, Technical Advisory Group, 2012
- Advisory Board Member - Advanced Mobility Academic Research Center, 2013
- Short course, June 2013. Programming Handheld Systems with Android, Sichuan University, PRC.
- Short course, July 2015. Programming Handheld Systems with Android, Sichuan University, PRC.
- 2017 – 2018, Member of the Governing Committee, The National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL)
- 2018 – present, Member of the Workforce Activities Committee [for Fraunhofer USA], The National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL)

### **Community Outreach**

- 1995. Organized Summer Educational Lab for local Hispanic high school students.
- 1997. Organized 2-day course on technical writing for local Hispanic college students.
- 2002. Served as mentor for the Ronald E. McNair Post-Baccalaureate Achievement program.
- 2005. Discussant for Gemstone thesis project.
- 2006: Faculty mentor: UMD Leaders for Tomorrow Program

- 2006: Faculty mentor: STAND Internship Research Program
- 2011-2017: Member, Board of Trustees, The Green Acres School, North Bethesda, MD
- 2018- : Member, Technology Task Force, Maret School, Washington, DC

### ***Panels and Workshops***

- Panelist, National Academy of Sciences, “Toward and Every-Citizen Interface to the National Information Infrastructure, 1996.
- Panelist, NSF/DARPA Workshop on New Visions for Software Design and Productivity, 2001.
- Co-organizer: NSF Workshop on New Visions for Software Design and Productivity: Research and Applications. Vanderbilt University. December 12-15 2001.
- Co-organizer: 1<sup>st</sup> International Workshop on Remote Analysis and Measurement of Software Systems, May 2004.
- Co-organizer: 2<sup>nd</sup> International Workshop on Remote Analysis and Measurement of Software Systems, May 2005.
- Co-organizer, 1<sup>st</sup> International Workshop on Software Engineering for High Performance Computing System (HPCS) Applications, May 2004.
- Co-organizer, 2<sup>nd</sup> International Workshop on Software Engineering for High Performance Computing System (HPCS) Applications, May 2005.
- Co-organizer, Workshop on Distributed and Parallel Real Time Systems: Special Session on Certification of Dynamic and Adaptive Systems. March 2007.
- Co-organizer, Second International Workshop on Multicore Software Engineering, Victoria, BC, Canada, March 2009.
- Co-organizer, 1<sup>st</sup> International SmartPhones in the Curriculum Workshop, May 2011.