
Margaret M. Burnett

Professor
School of Electrical Engineering and Computer Science
Oregon State University

Academic Background

Education

University of Kansas, 1987-1991, Ph.D. Computer Science (with honors).
University of Kansas, 1979-1981, M. S. Computer Science.
Miami University, Oxford, Ohio, 1967-1970, B.A. Mathematics, Cum Laude, Phi Beta Kappa.

Honors and Awards

ACM CHI Best Paper Honorable Mentions: 2008, 2010, 2012.
ACM IUI Best Paper Nominee: 2011.
IEEE VLHCC Most Influential Paper Award from 20 Years Ago: 2011.
IEEE VLHCC Best Paper Award: 2011.
IBM International Faculty Awards: 2005-2006, 2007, 2008.
National Science Foundation NSF Young Investigator Award (NYI): 1994.
Amoco Graduate Fellowship: 1989-1991.
Phi Beta Kappa: 1970.

Oregon State University Excellence in Graduate Mentoring Award: 2010.
Oregon State University College of Engineering Research Award: 2009.
Oregon State University College of Engineering Research Collaboration Award: 2005.
Oregon State University Elizabeth P. Ritchie Distinguished Professor Award: 2000.

Areas of Interest

Human aspects of software development. For example, visual programming, software visualization, end-user programming and end-user software engineering, gender differences in software usage, HCI aspects of software development.

Affiliations

Executive Committee, National Center for Women in Technology, Academic Alliance, 2010-present (Co-chair June 2011-May 2014).
Member, EUSES Consortium, 2003-present (Founding Project Director 2003-2009).
Senior Member, IEEE.
Member, ACM.

Experience

Academic Work Experience

Sept. 2003 - present: Professor, Oregon State University.
Sept. 1996 - Sept. 2003: Associate Professor, Oregon State University.

Jan. 1993 - Sept. 1996: Assistant Professor, Oregon State University.
Sept. 1991 - Dec. 1992: Assistant Professor, Michigan Technological University.

Mar. 2009 - June 2009: Visiting Researcher, Microsoft Research, Redmond, WA.
Sept. 2008 - Nov. 2008: Visiting Researcher, IBM T.J. Watson Research Lab, Hawthorne, NY.
March 2002 - April 2002: Honorary Research Fellow, University of Auckland, New Zealand.
Sept. 2001 - Nov. 2001: Visiting Scholar, Cambridge University, United Kingdom.
Sept. 2001 - Nov. 2001: Darwin College Visiting Associate, Cambridge, United Kingdom.
Sept. 2001 - Nov. 2001: Visiting Researcher, Microsoft Research, United Kingdom.

Patents

A Method of Determining a Prioritized List of Users Related to a Given Goal, R. Bellamy, P. Malkin, C. Williams, M. Burnett, J. Lawrance, J. Richards. Applied for 2009.
User Defined Spreadsheet Functions, S. Peyton Jones, A. Blackwell, M. Burnett, Filed 2002. U. S. Patent Number 7,266,763, issued September 4, 2007.
A Methodology for Testing Spreadsheets, G. Rothermel, M. Burnett, L. Li. U. S. Patent Number 6,948,154, issued September 20, 2005.
A Methodology for Testing Spreadsheet Grids, A. Sheretov, M. Burnett, G. Rothermel. U. S. Patent Number 6,766,509, issued July 20, 2004.

External Support

Research Funding through Grants and Contracts:

Microsoft Research: \$37,000, 2011.
IBM Open Collaboration Research Award (OCR): \$50,000. 2010-2011.
Air Force Office of Scientific Research, "Supporting the Human Modelers in Large Scale Cognitive Modeling," Margaret Burnett, \$256,535. 2010-2012.
IBM Open Collaboration Research Award (OCR): \$50,000. 2009-2010.
National Science Foundation, "HCC: Supporting Males' and Females' Problem Solving Strategies in End-User Debugging," IIS/HCC Program, Total: \$499,999. PI: Margaret Burnett. October 2009-September 2012.
Air Force Office of Scientific Research, "Information Foraging Theory in Software Maintenance," Margaret Burnett, \$493,852. 2009-2012.
National Science Foundation, "End-User Debugging of Machine-Learned Programs", Margaret Burnett, Thomas Dietterich, Simone Stumpf, Weng-Keen Wong, \$890,112. 2008-2012.
National Science Foundation, 1-year supplement to NSF-ITR Dependable End-User Software grant. \$527,847 (submitted April 2007. Funded through 12/31/08). Project Director: Margaret Burnett. Collaborative with the following universities:
OSU. PIs: Margaret Burnett (lead PI), Martin Erwig, Margaret Niess, Gregg Rothermel (via subcontract).
Carnegie Mellon. PI: Brad Myers, Mary Shaw.
Drexel University. PI: Susan Wiedenbeck.
University of Nebraska Lincoln. PI: Sebastian Elbaum.
Pennsylvania State University. PI: Mary Beth Rosson.
IBM International Faculty Award: \$15,000 (2008-9).

i5Logic: \$12,600 (2007). Funding for spreadsheet-oriented research. 2007-2008.

IBM International Faculty Award: \$30,000 (2007).

IBM International Faculty Award: \$40,000 + \$20,000 (2005-6).

DARPA/SRI, "Cognitive Agent that Learns and Organizes (CALO)," \$840,000, Tom Dietterich, Jon Herlocker, Alan Fern, and Margaret Burnett. 2005-2006. (Burnett portion: \$210,000).

Microsoft Research (U.K.): "Gender HCI Issues in Problem-Solving Software," Margaret Burnett, \$148,147. 2004-2007.

National Science Foundation (ITWF Program), "Gender HCI Issues in Problem-Solving Software," Margaret Burnett, \$249,285. Status: 2004-2008.

Computing Research Association, CRA-W Distributed Mentor Program (for involving 2 undergraduate women in research), \$4,000. PI: M. Burnett. 2004.

National Science Foundation, "Collaborative Research: Dependable End-User Software," \$2,640,000, ITR Medium Program, 2003-2007. Collaborative grant involving the following universities:

- OSU. PIs: Margaret Burnett (Project Director), Gregg Rothermel, Martin Erwig, Margaret Niess. Additional investigators: Curtis Cook (OSU), Ellen Ford (OSU), Alan Blackwell (Cambridge University). \$1,680,000.
- Carnegie Mellon. PIs: Brad Myers, Mary Shaw. \$324,000
- Drexel University. PI: Susan Wiedenbeck. \$212,000
- Virginia Polytechnic Institute. PI: Mary Beth Rosson. \$212,000
- University of Nebraska Lincoln. PI: Sebastian Elbaum. \$212,000

Microsoft Research, (collaborative research with Simon Peyton Jones), \$17,920, 2001-2004, PI: M. Burnett.

Iwate Prefectural University, Japan, (subcontracted from Catena Corporation, Japan), "Analysis of the Potential of Incorporating WYSIWYT into Lyee," \$68,792. 2002-2003. PI: M. Burnett. Co-PI: G. Rothermel.

Computing Research Association, CRA-W Distributed Mentor Program, \$2,500. PI: M. Burnett. 2002.

National Science Foundation (ITR Program), "End-User Software Engineering", \$455,000, 2000-2004. PIs: Margaret Burnett, Gregg Rothermel, and Curtis Cook.

Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., Washington, D.C.: Visual Programming Patent Consulting, \$2,350. 2000.

Hewlett-Packard Laboratories (Dr. Rajeev Pandey). "A WYSIWYG Programming Tool for End-User Creation of Services for e-speak", \$49,500. 2000-2001, PI: M. Burnett.

Pictorius International, Software Grant, \$45,747, 1999, PI: M. Burnett.

National Science Foundation, Experimental Software Systems (ESS Program), "An Experimental Environment for Integrating Testing and Debugging in Form-Based Visual Programming Languages", \$909,553, 1998-2001. PIs: Margaret Burnett, Gregg Rothermel, and Curtis Cook.

Pictorius International, Software Grant, \$10,100, 1998, PI: M. Burnett.

National Science Foundation, Software Capitalization Supplement, \$30,000. 1997-1998, PI: M. Burnett.

Harlequin, Inc., Software Grant, \$11,250, 1997, PI: M. Burnett.

Hewlett-Packard Laboratories (Dr. Mary Loomis), \$37,500, 1995-1996, PI: M. Burnett.

OCATE, Colloquium Grant, \$4,000, colloquium series entitled “Visual Programming Languages and Environments,” 1995-1996, PI: M. Burnett.

National Science Foundation, Metacenter Regional Alliances, \$1,474,822, 1995-1998. PIs: C. Pancake, R. Landau, A. Malony, T. Reynales. Co-Investigators: M. Burnett, J. Cuny, W. Daasch, M. Driscoll, S. Otto.

Hewlett-Packard Laboratories (Dr. Moshe Zloof), \$37,500, 1994-1995, PI: M. Burnett.

Prograph International, Software Grant, \$7,275, Nov. 1994, PI: M. Burnett.

National Science Foundation, Young Investigator (NYI) Award, \$266,125. 1994-2000, PI: M. Burnett.

National Science Foundation, Research Initiation Award: “Toward Scaling Up: Visual Data Abstraction for Declarative Visual Programming Languages,” \$90,000, 1993-1996, PI: M. Burnett.

National Science Foundation, Research Planning Grant: “A Study of the Scaling Up Problem for Declarative Visual Programming Languages,” \$18,000. 1992-1994, PI: M. Burnett.

Funding for Students, K-12 Teachers and Research Community-Building Events:

National Science Foundation, REU Supplement: \$16,000. May 2011-May 2012. (Burnett, Wong)

National Science Foundation, REU Supplement to “Supporting Males' and Females' Problem Solving Strategies in End-User Debugging,” \$12,000, 1 year, starting approx. May 2010.

National Science Foundation, REU Supplement to “End-User Debugging of Machine-Learned Programs,” \$12,000, (with Weng-Keen Wong and Simone Stumpf), 1 year, starting approx. May 2009.

National Science Foundation, REU Supplement to “Dependable End-User Software,” \$12,000, (with Martin Erwig), 1 year, starting approx. Sept. 2008.

IBM PhD Scholarship, \$15,000: Partial funding for Joseph Lawrance’s studies, 2008-2009. Submitted by M. Burnett. 2008-2009.

National Science Foundation, REU Supplement to “Dependable End-User Software,” \$12,000, (with Martin Erwig), 2008-2009.

National Science Foundation, REU Supplement to “Gender HCI,” Margaret Burnett, \$12,000. 2006-2007.

National Science Foundation, REU Supplement to “Dependable End-User Software,” \$12,000, (with Martin Erwig), 2006-2007.

National Science Foundation, REU Supplement to “Dependable End-User Software,” \$12,000, (with Martin Erwig), 2005-2006.

National Science Foundation, Teacher Supplement, to “Dependable End-User Software,” \$99,999, (with Margaret Niess and Ellen Ford). 2004-2006.

National Science Foundation, REU Supplement to “Dependable End-User Software,” \$12,000, (with Martin Erwig and Gregg Rothermel), 2004-2005.

National Science Foundation, “Workshop Event: Programming Languages/Environments for the Educationally Disadvantaged,” \$39,096. PI: Margaret Burnett. 2003-2005.

National Science Foundation, Additional REU Supplement to ITR grant “End-User Software Engineering”, \$10,000. PIs: Margaret Burnett, Gregg Rothermel, and Curtis Cook. 2001-2002.

OSU/NASA Space Grant Fellowship, \$6,000: Funding for graduate student Jay Summet. Sept. 2000-Aug. 2001. (Submitted by M. Burnett)

OSU/NASA Space Grant Fellowship, \$16,000: Funding for incoming graduate student Jay Summet. Sept. 1999-Aug. 2000. (Submitted by M. Burnett)

NASA Graduate Student Researchers Grant: \$44,000: Funding for Rebecca Walpole's studies. July 1997-June 1999. (Transferred remainder of Rebecca's second-year funding to John Atwood when she graduated.) Submitted by Rebecca Walpole and M. Burnett.

National Science Foundation (REU Supplement), \$10,000. 1997-1999, PI: M. Burnett.

National Science Foundation, REU Supplement (Research Experiences for Undergraduates), \$10,000, 1994-1996, PI: M. Burnett.

OSU/NASA Space Grant Fellowship, \$15,000: Funding for incoming graduate student Paul Carlson. 1993-1994, submitted by W. Rudd and M. Burnett.

National Science Foundation, REU Supplement (Research Experiences for Undergraduates) to "A Study of the Scaling Up Problem for Declarative Visual Programming Languages", \$5000. 1993-1994, PI: M. Burnett.

Grand total funding: **\$ 11,590,055**

Publications

Journal Papers

- 1) “An Information Foraging Theory Perspective on Tools for Debugging, Refactoring, and Reuse Tasks”, Scott Fleming, Christopher Scaffidi, David Piorkowski, Margaret Burnett, Rachel Bellamy, Joseph Lawrance, Irwin Kwan, *ACM Transactions on Software Engineering and Methodology* (to appear 2012).
- 2) “End-User Debugging Strategies: A Sensemaking Perspective,” Valentina Grigoreanu, Margaret Burnett, Susan Wiedenbeck, Jill Cao, Kyle Rector, and Irwin Kwan, *ACM Transactions on Computer-Human Interaction* (to appear 2012).
- 3) “How Programmers Debug, Revisited: An Information Foraging Theory Perspective,” Joseph Lawrance, Christopher Bogart, Margaret Burnett, Rachel Bellamy, Kyle Rector, Scott D. Fleming, *IEEE Transactions on Software Engineering* (to appear 2012).
- 4) “Why-Oriented End-User Debugging of Naïve Bayes Text Classification,” Todd Kulesza, Simone Stumpf, Weng-Keen Wong, Margaret M. Burnett, Stephen Perona, Andrew Ko, Ian Oberst, *ACM Transactions on Interactive Intelligent Systems*, 1(1), 2011.
- 5) “Gender Pluralism in Problem-Solving Software”, Margaret M. Burnett, Laura Beckwith, Susan Wiedenbeck, Scott D. Fleming, Jill Cao, Thomas H. Park, Valentina Grigoreanu, Kyle Rector, *Interacting with Computers*, 23(5), Elsevier, 450–460, September 2011. doi:10.1016/j.intcom.2011.06.004.
- 6) “The State of the Art in End-User Software Engineering,” Andrew J. Ko, Robin Abraham, Laura Beckwith, Alan Blackwell, Margaret Burnett, Martin Erwig, Joseph Lawrance, Chris Scaffidi, Henry Lieberman, Brad Myers, Mary Beth Rosson, Gregg Rothermel, Mary Shaw, and Susan Wiedenbeck, *ACM Computing Surveys* 43(3), Article 21 (April 2011), 44 pages.
- 7) “Using traits of web macro scripts to predict reuse,” Chris Scaffidi, Chris Bogart, Margaret Burnett, Allen Cypher, Brad Myers, Mary Shaw, *Journal of Visual Languages and Computing* 21(5), December 2010.
- 8) “End-User Software Engineering and Why It Matters,” Margaret Burnett, *Journal of Organizational and End-User Computing* 22(1), 1-22, 2010.
- 9) “Mining Problem-Solving Strategies from HCI Data,” Xiaoli Fern, Chaitanya Komireddy, Valentina Grigoreanu, Margaret Burnett, *ACM Transactions on Computer-Human Interaction* 17(1), 2010.
- 10) “Interacting Meaningfully with Machine Learning Systems: Three Experiments,” Simone Stumpf, Vidya Rajaram, Lida Li, Weng-Keen Wong, Margaret Burnett, Thomas Dietterich, Erin Sullivan, and Jonathan Herlocker, *International Journal of Human-Computer Studies* 67, 639-662, 2009.
- 11) “End-User Strategy Programming,” Christoph Neumann, Ronald Metoyer, and Margaret Burnett, *Journal of Visual Languages and Computing* 20(1), 16-29, February 2009.
- 12) “Gender HCI: What About the Software?” Laura Beckwith, Margaret Burnett, Valentina Grigoreanu, and Susan Wiedenbeck, *Computer* 39(11), 83-87, November 2006.
- 13) “Using Cognitive Dimensions: Advice from the Trenches,” Jason Dagit, Joseph Lawrance, Christoph Neumann, Margaret Burnett, Ronald Metoyer, and Sam Adams, *Journal of Visual Languages and Computing* 17(4), 302-327, August 2006.
- 14) “Integrating Automated Test Generation into the WYSIWYT Spreadsheet Testing Methodology,” Marc Fisher II, Mingming Cao, Gregg Rothermel, Darren Brown, Curtis

- R. Cook, and Margaret M. Burnett, *ACM Transactions on Software Engineering and Methodology* 15(2), 150-194, April 2006.
- 15) "Interactive Fault Localization Techniques in an End-User Programming Environment," Joseph R. Ruthruff, Margaret Burnett, and Gregg Rothermel, *IEEE Transactions on Software Engineering* 32(4), 213-239, April 2006.
 - 16) "Impact of High-Intensity Negotiated-Style Interruptions on End-User Debugging," T. J. Robertson, Joseph Lawrance, and Margaret Burnett, *Journal of Visual Languages and Computing* 17(2), 187-202, April 2006.
 - 17) "The Impact of Software Engineering Research on Modern Programming Languages," Barbara G. Ryder, Mary Lou Soffa, and Margaret Burnett, *ACM Transactions on Software Engineering and Methodology* 14(4), 431-477, October 2005.
 - 18) "Interactive, Visual Fault Localization Support for End-User Programmers," Joseph Ruthruff, Shrinu Prabhakararao, James Reichwein, Curtis Cook, Eugene Creswick, and Margaret Burnett, *Journal of Visual Languages and Computing* 16(1-2), 3-40, February/April 2005.
 - 19) "End-User Software Engineering," Margaret Burnett, Curtis Cook, and Gregg Rothermel, *Communications of the ACM* 47(9), 53-58, September 2004.
 - 20) "A Scalable Method for Deductive Generalization in the Spreadsheet Paradigm," Margaret Burnett, Sherry Yang, and Jay Summet, *ACM Transactions on Computer-Human Interaction* 9(4), 253-284, December 2002.
 - 21) "Improving the Design of Visual Programming Language Experiments Using Cognitive Walkthroughs," Andrew Ko, Margaret Burnett, Thomas Green, Karen Rothermel, and Curtis Cook, *Journal of Visual Languages and Computing* 13(5), 517-544, October 2002. **(This made JVLC's "Top 25" most downloaded articles list in 2003 and again in 2004.)**
 - 22) "End-User Programming of Time as an 'Ordinary' Dimension in Grid-Oriented Visual Programming Languages," Margaret Burnett, Nanyu Cao, Miguel Arredondo-Castro, and John Atwood, *Journal of Visual Languages and Computing* 13(4), 421-447, August 2002.
 - 23) "Testing Homogeneous Spreadsheet Grids with the 'What You See Is What You Test' Methodology," Margaret Burnett, Andrei Sheretov, Bing Ren, and Gregg Rothermel, *IEEE Transactions on Software Engineering* 29(6), 576-594, June 2002.
 - 24) "Forms/3: A First-Order Visual Language to Explore the Boundaries of the Spreadsheet Paradigm," Margaret Burnett, John Atwood, Rebecca Walpole Djang, Herkimer Gottfried, James Reichwein, and Sherry Yang, *Journal of Functional Programming*, 11(2), 155-206, March 2001.
 - 25) "A Methodology for Testing Spreadsheets," Gregg Rothermel, Margaret Burnett, Lixin Li, Christopher DuPuis, and Andrei Sheretov, *ACM Transactions on Software Engineering and Methodology* 10(1), 110-147, January 2001.
 - 26) "Exception Handling in the Spreadsheet Paradigm," Margaret Burnett, Anurag Agrawal, and Pieter van Zee, *IEEE Transactions on Software Engineering* 26(10), 923-942, October 2000.
 - 27) "Static Type Inference for a First-Order Declarative Visual Programming Language with Inheritance", Rebecca Walpole Djang, Margaret Burnett, and Roger Chen, *Journal of Visual Languages and Computing*, 191-235, April 2000.
 - 28) "Graphical Definitions: Expanding Spreadsheet Languages through Direct Manipulation and Gestures," Margaret Burnett and Herkimer Gottfried, *ACM Transactions on Computer-Human Interaction* 5(1), 1-33, March 1998.

- 29) "Representation Design Benchmarks: A Design-Time Aid for VPL Navigable Static Representations," Sherry Yang, Margaret Burnett, Elyon DeKoven, and Moshe Zloof, *Journal of Visual Languages and Computing* 8(5/6), Academic Press, 563-599, October/December 1997.
- 30) "Scaling Up Visual Programming Languages," Margaret Burnett, Marla Baker, Carisa Bohus, Paul Carlson, Sherry Yang, Pieter van Zee, *Computer* 28(3), IEEE Computer Society, 45-54, March 1995.
- 31) "Toward Visual Programming Languages for Steering in Scientific Visualization: a Taxonomy," Margaret Burnett, Richard Hossli, Timothy Pulliam, Brian VanVoorst, and Xiaoyang Yang, *IEEE Computational Science and Engineering* 1(4), 44-62, Winter 1994.
- 32) "A Classification System for Visual Programming Languages," Margaret Burnett and Marla Baker, *Journal of Visual Languages and Computing* 5(3), 287-300, September 1994.
- 33) "Interactive Visual Data Abstraction in a Declarative Visual Programming Language," Margaret Burnett and Allen Ambler, *Journal of Visual Languages and Computing* 5(1), 29-60, March 1994.
- 34) "Operational versus Definitional: A Perspective of Programming Paradigms," Allen Ambler, Margaret Burnett, and Betsy Zimmerman, *Computer* 25(9), 28-43, IEEE Computer Society, September 1992.
- 35) "Visual Forms of Iteration that Preserve Single Assignment," Allen Ambler and Margaret Burnett, *Journal of Visual Languages and Computing* 1(2), Academic Press, 159-181, June 1990.
- 36) "Influence of Visual Technology on the Evolution of Language Environments," Allen Ambler and Margaret Burnett, *Computer* 22(10), IEEE Computer Society, 9-22, October 1989. Reprinted in *Visual Programming Environments: Paradigms and Systems*, (E. Glinert, ed.), IEEE Computer Society Press, 1990.

Refereed Conference Papers

- 37) Designing a debugging interaction language: An initial case study in Natural Programming Plus, Christopher Bogart, Margaret Burnett, Scott Douglass, Rachel White, Hannah Adams *ACM Conference on Human-Computer Interaction (CHI)*, May 2012.
- 38) Tell Me More? The Effects of Mental Model Soundness on Personalizing an Intelligent Agent, Todd Kulesza, Simone Stumpf, Margaret Burnett, Irwin Kwan, *ACM Conference on Human-Computer Interaction (CHI)*, May 2012. **Best Paper Honorable Mention.**
- 39) Reactive Information Foraging: An Empirical Investigation of Theory-Based Recommender Systems for Programmers, David Piorkowski, Scott D. Fleming, Christopher Scaffidi, Christopher Bogart, Margaret Burnett, Bonnie E. John, Rachel K. E. Bellamy, Calvin Swart, *ACM Conference on Human-Computer Interaction (CHI)*, May 2012.
- 40) An Exploration of Design Opportunities for "Gardening" End-User Programmers' Ideas, Jill Cao, Scott D. Fleming, Margaret Burnett, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Pittsburg, PA, September 2011. **Best Paper Award.**
- 41) Modeling Programmer Navigation: A head-to-head empirical evaluation of predictive models, David Piorkowski, Scott D. Fleming, Christopher Scaffidi, Liza John, Christopher Bogart, Bonnie E. John, Margaret Burnett, Rachel Bellamy, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Pittsburg, PA, September 2011, pp. 109-116.

- 42) Mini-Crowdsourcing End-User Assessment of Intelligent Assistants: A Cost-Benefit Study, Amber Shinsel, Todd Kulesza, Margaret Burnett, William Curran, Alex Groce, Simone Stumpf, Weng-Keen Wong, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Pittsburg, PA, September 2011.
- 43) End-User Feature Labeling via Locally Weighted Logistic Regression, Weng-Keen Wong, Ian Oberst, Shubhomoy Das, Travis Moore, Simone Stumpf, Kevin McIntosh, Margaret Burnett, *Twenty-Fifth AAAI Conference on Artificial Intelligence (Nectar Track)*, San Francisco, CA, August 2011.
- 44) “Where Are My Intelligent Assistant’s Mistakes? A Systematic Testing Approach,” Todd Kulesza, Margaret Burnett, Simone Stumpf, Weng-Keen Wong, Shubhomoy Das, Alex Groce, Amber Shinsel, Forrest Bice, Kevin McIntosh, *Third International Symposium on End-User Development, Lecture Notes in Computer Science 6654*, Torre Canne (Brindisi), Italy, June 2011, pp. 171-186.
- 45) “End-User Feature Labeling: A Locally-Weighted Regression Approach,” Weng-Keen Wong, Ian Oberst, Shubhomoy Das, Travis Moore, Simone Stumpf, Kevin McIntosh, Margaret Burnett, *ACM International Conference on Intelligent User Interfaces*, February 2011, pp. 115-124. **Best Paper Nominee.**
- 46) “A Debugging Perspective on End-User Mashup Programming,” Jill Cao, Kyle Rector, Thomas H. Park, Scott D. Fleming, Margaret Burnett, Susan Wiedenbeck, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Madrid, Spain, September 2010, pp. 149-156.
- 47) “Does my model work? Evaluation abstractions of cognitive modelers,” Christopher Bogart, Margaret Burnett, Scott Douglass, David Piorkowski, Amber Shinsel, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Madrid, Spain, September 2010, pp. 49-56.
- 48) “Explanatory Debugging: Supporting End-User Debugging of Machine-Learned Programs,” Todd Kulesza, Simone Stumpf, Margaret Burnett, Weng-Keen Wong, Yann Riche, Travis Moore, Ian Oberst, Amber Shinsel, Kevin McIntosh, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Madrid, Spain, September 2010, pp. 41-48.
- 49) “Gender Differences and Programming Environments: Across Programming Populations,” Margaret Burnett, Scott D. Fleming, Shamsi Iqbal, Gina Venolia, Vidya Rajaram, Umer Farooq, Valentina Grigoreanu, Mary Czerwinski, *ACM-IEEE Empirical Software Engineering and Measurement (ESEM)*, Bolzano-Bozen, Italy, September 16–17, 2010, Article no. 28.
- 50) “Reactive Information Foraging for Evolving Goals,” Joseph Lawrance, Margaret Burnett, Rachel Bellamy, Christopher Bogart, and Calvin Swart, *ACM Conference on Human-Computer Interaction (CHI)*, April 2010.
- 51) “End-User Mashup Programming: Through the Design Lens,” Jill Cao, Yann Riche, Susan Wiedenbeck, Margaret Burnett, and Valentina Grigoreanu, *ACM Conference on Human-Computer Interaction (CHI)*, April 2010. **Best Paper Honorable Mention.**
- 52) “A Strategy-Centric Approach to the Design of End-User Debugging Tools,” Valentina Grigoreanu, Margaret Burnett, and George Robertson, *ACM Conference on Human-Computer Interaction (CHI)*, April 2010.
- 53) “Predicting Reuse of End-User Web Macro Scripts,” Christopher Scaffidi, Christopher Bogart, Margaret Burnett, Allen Cypher, Brad Myers, Mary Shaw, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Corvallis, Oregon, September 2009.

- 54) "Males' and Females' Script Debugging Strategies," Valentina Grigoreanu, James Brundage, Eric Bahna, Margaret Burnett, Paul EIRif, Jeffrey Snover, *Second International Symposium on End-User Development*, Siegen, Germany, March 2-4, 2009.
- 55) "Fixing the Program My Computer Learned: Barriers for End Users, Challenges for the Machine," Todd Kulesza, Weng-Keen Wong, Simone Stumpf, Stephen Perona, Rachel White, Margaret Burnett, Ian Oberst, Andrew J. Ko, *ACM Conference on Intelligent User Interfaces*, Sanibel Island, Florida, Feb. 8-11, 2009, pp. 187-196.
- 56) "Software Visualization for End-User Programmers: Trial Period Obstacles," Neeraja Subrahmaniyan, Margaret Burnett, and Christopher Bogart, *ACM Symposium on Software Visualization*, Herrsching am Ammersee, Germany, Sept. 2008, pp. 135-144.
- 57) "Can Information Foraging Pick the Fix? A Field Study," Joseph Lawrance, Rachel Bellamy, Margaret Burnett, Kyle Rector, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Herrsching am Ammersee, Germany, Sept. 2008, pp. 57-64.
- 58) "Can Feature Design Reduce the Gender Gap in End-User Software Development Environments?" Valentina Grigoreanu, Jill Cao, Todd Kulesza, Christopher Bogart, Kyle Rector, Margaret Burnett, and Susan Wiedenbeck, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Herrsching am Ammersee, Germany, Sept. 2008, pp. 149-156.
- 59) "End-User Programming in the Wild: A Field Study of CoScripter Scripts", Christopher Bogart, Margaret Burnett, Allen Cypher, and Christopher Scaffidi, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Herrsching am Ammersee, Germany, Sept. 2008, pp. 39-46.
- 60) "Testing vs. Code Inspection vs. ... What Else? Male and Female End Users' Debugging Strategies," Neeraja Subrahmaniyan, Laura Beckwith, Valentina Grigoreanu, Margaret Burnett, Susan Wiedenbeck, Vaishnavi Narayanan, Karin Bucht, Russell Drummond, and Xiaoli Fern, *ACM Conference on Human-Computer Interaction*, April 2008, pp. 617-626.
- 61) "Using Information Scent to Model the Dynamic Foraging Behavior of Programmers in Maintenance Tasks," Joseph Lawrance, Rachel Bellamy, Margaret Burnett, Kyle Rector, *ACM Conference on Human-Computer Interaction*, April 2008, pp. 1323-1332. **Best Paper Honorable Mention.**
- 62) "Integrating Rich User Feedback into Intelligent User Interfaces," Simone Stumpf, Erin Sullivan, Erin Fitzhenry, Ian Oberst, Weng-Keen Wong, Margaret Burnett, *ACM International Conference on Intelligent User Interfaces*, January 2008, pp. 50-59.
- 63) "Mining Interpretable Human Strategies: A Case Study," Xiaoli Fern, Chaitanya Komireddy and Margaret Burnett, *IEEE International Conference on Data Mining*, Omaha NE, October 2007.
- 64) "Scents in Programs: Does Information Foraging Theory Apply to Program Debugging?" Joseph Lawrance, Rachel Bellamy, Margaret Burnett, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Coeur d'Alene, Idaho, September 2007, pp. 15-22.
- 65) "Explaining Debugging Strategies to End-User Programmers," Neeraja Subrahmaniyan, Cory Kissinger, Kyle Rector, Derek Inman, Jared Kaplan, Laura Beckwith, and Margaret Burnett, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Coeur d'Alene, Idaho, September 2007, pp. 127-134.
- 66) "On to the Real World: Gender and Self-Efficacy in Excel," Laura Beckwith, Derek Inman, Kyle Rector, and Margaret Burnett, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Coeur d'Alene, Idaho, September 2007, pp. 119-126.

- 67) "Toward Harnessing User Feedback For Machine Learning," Simone Stumpf, Vidya Rajaram, Lida Li, Margaret Burnett, Thomas Dietterich, Erin Sullivan, Russell Drummond, Jonathan Herlocker, *ACM International Conference on Intelligent User Interfaces*, Honolulu, HI, January 28-31, 2007.
- 68) "Scaling a Dataflow Testing Methodology to the Multiparadigm World of Commercial Spreadsheets", Marc Fisher, Gregg Rothermel, Tyler Creelan and Margaret Burnett, *IEEE International Symposium on Software Reliability Engineering*, Raleigh, NC, November 2006.
- 69) "Sharing reasoning about faults in spreadsheets: An empirical study", Joseph Lawrance, Robin Abraham, Margaret Burnett, Martin Erwig, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Sept. 2006, 35-42.
- 70) "Pair Collaboration in End-User Debugging", Thippaya Chintakovid, Susan Wiedenbeck, Margaret Burnett, Valentina Grigoreanu, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Sept. 2006, 3-10.
- 71) "Gender Differences in End-User Debugging, Revisited: What the Miners Found", Valentina Grigoreanu, Laura Beckwith, Xiaoli Fern, Sherry Yang, Chaitanya Komireddy, Vaishnavi Narayanan, Curtis Cook, Margaret Burnett, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Sept. 2006, 19-26.
- 72) "Supporting End-User Debugging: What Do Users Want to Know?" Cory Kissinger, Margaret Burnett, Simone Stumpf, Neeraja Subrahmanian, Laura Beckwith, Sherry Yang, and Mary Beth Rosson, *Proceedings Advance Visual Interfaces*, ACM Press, Venice, Italy, May 2006.
- 73) "Tinkering and Gender in End-User Programmers' Debugging," Laura Beckwith, Cory Kissinger, Margaret Burnett, Susan Wiedenbeck, Joseph Lawrance, Alan Blackwell, Curtis Cook, *ACM Conference on Human-Computer Interaction (CHI'06)*, Montreal, Canada, 231-240, April 2006.
- 74) "Garbage In, Garbage Out? An Empirical Look at Oracle Mistakes by End-User Programmers," Amit Phalgune, Cory Kissinger, Margaret Burnett, Curtis Cook, Laura Beckwith, and Joseph R. Ruthruff, *IEEE Symposium on Visual Languages and Human-Centric Computing*, 45-52, September 2005.
- 75) "Designing Features for Both Genders in End-User Software Engineering Environments," Laura Beckwith, Shraddha Sorte, Margaret Burnett, Susan Wiedenbeck, Thippaya Chintakovid, and Curtis Cook, *IEEE Symposium on Visual Languages and Human-Centric Computing*, 153-160, September 2005.
- 76) "How Well Do Professional Developers Test with Code Coverage Visualizations?" An Empirical Study, Joseph Lawrance, Steven Clarke, Margaret Burnett, and Gregg Rothermel, *IEEE Symposium on Visual Languages and Human-Centric Computing*, 53-60, September 2005.
- 77) "An Empirical Study of Fault Localization for End-User Programmers," Joseph Ruthruff, Margaret Burnett, and Gregg Rothermel, *International Conference on Software Engineering*, St. Louis, MO, 352-361, May 2005.
- 78) "Effectiveness of End-User Debugging Software Features: Are There Gender Issues?" Laura Beckwith, Margaret Burnett, Susan Wiedenbeck, Curtis Cook, Shraddha Sorte, Michelle Hastings, *ACM Conference on Human-Computer Interaction (CHI'05)*, Portland, Oregon, 869-878, April 2005.
- 79) "Rewarding 'Good' Behavior: End-User Debugging and Rewards," Joseph Ruthruff, Amit Phalgune, Laura Beckwith, Margaret Burnett, and Curtis Cook, *IEEE Symposium*

on *Visual Languages and Human-Centric Computing*, Rome, Italy, 115-122, September 2004.

- 80) "Gender: An Important Factor in End-User Programming Environments?" Laura Beckwith and Margaret Burnett, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Rome, Italy, 107-114, September 2004.
- 81) "Champagne Prototyping: A Research Technique for Early Evaluation of Complex End-User Programming Systems," Alan Blackwell, Margaret Burnett, and Simon Peyton Jones, *IEEE Symposium on Visual Languages and Human-Centric Computing*, Rome, Italy, 47-54, September 2004.
- 82) "Impact of Interruption Style on End-User Debugging," T. J. Robertson, Shrinu Prabhakararao, Margaret Burnett, Curtis Cook, Joseph R. Ruthruff, Laura Beckwith, and Amit Phalgune, *ACM Conference on Human-Computer Interaction (CHI'04)*, Vienna, Austria, 287-294, April 24-29, 2004.
- 83) "Generalizing WYSIWYT Visual Testing to Screen Transitions Diagrams," Darren Brown, Margaret Burnett, and Gregg Rothermel, *IEEE Symposium on Human-Centric Languages*, Auckland, New Zealand, 203-210, October 2003.
- 84) "Strategies and Behaviors of End-User Programmers with Interactive Fault Localization," S. Prabhakararao, C. Cook, J. Ruthruff, E. Creswick, M. Main, M. Durham, and M. Burnett, *IEEE Symposium on Human-Centric Languages*, Auckland, New Zealand, 15-22, October 2003.
- 85) "A user-centred approach to functions in Excel," Simon Peyton Jones, Alan Blackwell, and Margaret Burnett, *ACM International Conference on Functional Programming*, Uppsala, Sweden, 165-176, August 25-29, 2003.
- 86) "End-User Software Visualizations for Fault Localization," J. Ruthruff, E. Creswick, M. Burnett, C. Cook, S. Prabhakararao, M. Fisher, M. Main, *ACM Symposium on Software Visualization*, San Diego, CA, 123-132, June 2003.
- 87) "End-User Software Engineering with Assertions in the Spreadsheet Paradigm," Margaret Burnett, Curtis Cook, Omkar Pendse, Gregg Rothermel, Jay Summet, and Christine Wallace, *International Conference on Software Engineering*, Portland, Oregon, 93-103, May 2003.
- 88) "Harnessing Curiosity to Increase Correctness in End-User Programming," A. Wilson, M. Burnett, L. Beckwith, O. Granatir, L. Casburn, C. Cook, M. Durham, and G. Rothermel, *ACM Conference on Human-Computer Interaction (CHI'03)*, Fort Lauderdale, Florida, 305-312, April 5-10, 2003.
- 89) "Test Reuse in the Spreadsheet Paradigm," Marc Fisher II, Dalai Jin, Gregg Rothermel, and Margaret Burnett, *IEEE International Symposium on Software Reliability Engineering*, Annapolis, MD, Nov. 12-15, 2002.
- 90) "Reasoning about Many-to-Many Requirement Relationships in Spreadsheets," Laura Beckwith, Margaret Burnett, and Curtis Cook, *IEEE Symposium on Human-Centric Languages*, Sept. 2002.
- 91) "Visually Customizing Inference Rules About Apples and Oranges," Margaret Burnett and Martin Erwig, *IEEE Symposium on Human-Centric Languages*, Sept. 2002.
- 92) "Automated Test Case Generation for Spreadsheets," Marc Fisher, Mingming Cao, Gregg Rothermel, Curtis Cook, and Margaret Burnett, *International Conference on Software Engineering*, Orlando, Florida, 141-151, May 19-25, 2002.
- 93) "Adding Apples and Oranges," Martin Erwig and Margaret Burnett, *Fourth International Symposium on Practical Aspects of Declarative Languages*, January 2002.

- 94) "Incorporating Incremental Validation and Impact Analysis into Spreadsheet Maintenance: An Empirical Study," Vijay Krishna, Curtis Cook, Daniel Keller, Joshua Cantrell, Chris Wallace, Margaret Burnett, and Gregg Rothermel, *IEEE International Conference on Software Maintenance*, Florence, Italy, 72-81, November 2001.
- 95) "FAR: An End-User Language to Support Cottage E-Services," Margaret Burnett, Sudheer Chekka, Rajeev Pandey, *IEEE Symposium on Human-Centric Languages*, Stresa, Italy, 195-202, Sept. 2001.
- 96) "Visually Testing Recursive Programs in Spreadsheet Languages," Margaret Burnett, Bing Ren, Andrew Ko, Curtis Cook, and Gregg Rothermel, *IEEE Symposium on Human-Centric Languages*, Stresa, Italy, 288-295, Sept. 2001.
- 97) "Using the Cognitive Walkthrough to Improve the Design of a Visual Programming Experiment," T. R. G. Green, M. M. Burnett, A. J. Ko, K. J. Rothermel, C. R. Cook, J. Schonfeld, *IEEE Symposium on Visual Languages*, Seattle, WA, 172-179, September 2000.
- 98) "Time in Grid-Oriented VPLs: Just Another Dimension?" Margaret Burnett, Nanyu Cao, and John Atwood, *IEEE Symposium on Visual Languages*, Seattle, WA, 137-144, September 2000.
- 99) "WYSIWYT Testing in the Spreadsheet Paradigm: An Empirical Evaluation," Karen Rothermel, Curtis Cook, Margaret Burnett, Justin Schonfeld, Thomas Green, and Gregg Rothermel, *International Conference on Software Engineering*, Limerick, Ireland, 230-239, June 2000.
- 100) "Slicing Spreadsheets: An Integrated Methodology for Spreadsheet Testing and Debugging," James Reichwein, Gregg Rothermel, and Margaret Burnett, *Conference on Domain Specific Languages (DSL'99)*, Austin, Texas, 25-38, October 3-5, 1999.
- 101) "Scaling Up a 'What You See Is What You Test' Methodology to Testing Spreadsheet Grids," Margaret Burnett, Andrei Sheretov, and Gregg Rothermel, *1999 IEEE Symposium on Visual Languages*, Tokyo, Japan, 30-37, Sept. 13-16, 1999.
- 102) "Implementing Level 4 Liveness in Declarative Visual Programming Languages," Margaret Burnett, John Atwood, Zachary Welch, *1998 IEEE Symposium on Visual Languages*, Halifax, Nova Scotia, Canada, 126-133, Sept. 1-4, 1998.
- 103) "Similarity Inheritance: A New Model of Inheritance for Spreadsheet VPLs," Rebecca Walpole Djang and Margaret Burnett, *1998 IEEE Symposium on Visual Languages*, Halifax, Nova Scotia, Canada, 134-141, Sept. 1-4, 1998.
- 104) "What You See Is What You Test: A Methodology for Testing Form-Based Visual Programs," Gregg Rothermel, Lixin Li, Christopher DuPuis, and Margaret Burnett, *International Conference on Software Engineering (ICSE'98)*, Kyoto, Japan, 198-207, April 19-25, 1998.
- 105) "Testing Strategies for Form-Based Visual Programs," Gregg Rothermel, Lixin Li, and Margaret Burnett, *International Symposium on Software Reliability Engineering (ISSRE'97)*, Albuquerque, NM, 96-107, November 2-5, 1997.
- 106) "A Bug's Eye View of Immediate Visual Feedback in Direct-Manipulation Programming Systems," Curtis Cook, Margaret Burnett, Derrick Boom, *Empirical Studies of Programmers*, Alexandria, VA, Oct. 24-26, 1997.
- 107) "Programming Complex Objects in Spreadsheets: An Empirical Study Comparing Textual Formula Entry with Direct Manipulation and Gestures," Herkimer Gottfried and Margaret Burnett, *Empirical Studies of Programmers*, Alexandria, VA, Oct. 24-26, 1997.

- 108)“Graphical Definitions: Making Spreadsheets Visual through Direct Manipulations and Gestures,” Herkimer Gottfried and Margaret Burnett, *1997 IEEE Symposium on Visual Languages*, Capri, Italy, 246-253, September 1997.
- 109)“Supporting Reuse of Evolving Visual Code,” Rebecca Walpole and Margaret Burnett, *1997 IEEE Symposium on Visual Languages*, Capri, Italy, 68-75, September 1997.
- 110)“Does Continuous Visual Feedback Aid Debugging in Direct-Manipulation Programming Systems?” Eric Wilcox, John Atwood, Margaret Burnett, J. J. Cadiz, and Curtis Cook, *ACM Proceedings CHI’97: Conference on Human Factors in Computing Systems*, 258-265, Mar. 1997.
- 111)“Steering Programs via Time Travel,” John Atwood, Margaret Burnett, Rebecca Walpole, Eric Wilcox, and Sherry Yang, *1996 IEEE Symposium on Visual Languages*, 4-11, September 1996.
- 112)“Retire Superman: Handling Exceptions Seamlessly in a Declarative Visual Programming Language,” Pieter van Zee, Margaret Burnett, and Maureen Chesire, *1996 IEEE Symposium on Visual Languages*, 222-230, September 1996.
- 113)“A Seamless Integration of Algorithm Animation into a Visual Programming Language,” Paul Carlson, Margaret Burnett, and Jonathan Cadiz, *ACM Proceedings of AVI’96, International Workshop on Advanced Visual Interfaces*, Gubbio, Italy, 194-202, May 1996.
- 114)“From Concrete Forms to Generalized Abstractions through Perspective-Oriented Analysis Of Logical Relationships,” Sherry Yang and Margaret Burnett, *1994 IEEE Symposium on Visual Languages*, St. Louis, Missouri, 6-14, October 4-7, 1994.
- 115)“Types and Type Inference in a Visual Programming Language,” Margaret Burnett, *1993 IEEE Symposium on Visual Languages*, Bergen, Norway, 238-243, August 24-27, 1993.
- 116)“Is It Easier to Write Matrix Manipulation Programs Visually or Textually? An Empirical Study,” Rajeev Pandey and Margaret Burnett, *1993 IEEE Symposium on Visual Languages*, Bergen, Norway, 344-351, August 24-27, 1993.
- 117)“A Declarative Approach to Event-Handling in Visual Programming Languages,” Margaret Burnett and Allen Ambler, *1992 IEEE Workshop on Visual Languages*, Seattle, 34-40, September 1992. **Won “Most Influential Paper Award: 20-Year Category” at IEEE Symposium on Visual Languages and Human-Centric Computing**, 2011.
- 118)“Generalizing Event Detection and Response in Visual Programming Languages,” Margaret Burnett and Allen Ambler, *Advanced Visual Interfaces: an International Workshop*, Rome, Italy, May 27-29, 1992, World Scientific Series in Computer Science 36, (T. Catarci, M. F. Costabile, S. Levialdi, eds.), World Scientific Press, Singapore, 334-347, 1993.
- 119)“Efficiency Issues in a Class of Visual Languages,” Margaret Burnett and Allen Ambler, *1990 IEEE Workshop on Visual Languages*, Skokie, Illinois, 209-214, October 1990.
- 120)“Visual Languages and the Conflict Between Single Assignment and Iteration,” Allen Ambler and Margaret Burnett, *1989 IEEE Workshop on Visual Languages*, Rome, Italy, 138-143, October 1989.

Other Peer-Reviewed Papers

- 121)Towards Recognizing “Cool”: Can End Users Help Computer Vision Recognize Subjective Attributes of Objects in Images? William Curran, Travis Moore, Todd Kulesza, Weng-Keen Wong, Sinisa Todorovic, Simone Stumpf, Rachel White, and

- Margaret Burnett, *ACM Int. Conference on Intelligent User Interfaces*, February 2012. (Short paper).
- 122) End-User Software Engineering and Why It Matters. Burnett, M. In A. Dwivedi, & S. Clarke (Eds.), *End-User Computing, Development, and Software Engineering: New Challenges*. pp. 185-201, 2012. doi:10.4018/978-1-4666-0140-6.ch009. (This is a reprint of a 2010 journal paper of the same name.)
 - 123) "Gender in End-User Software Engineering," Margaret Burnett, Susan Wiedenbeck, Valentina Grigoreanu, Neeraja Subrahmaniyan, Laura Beckwith, Cory Kissinger, *Workshop on End-User Software Engineering (WEUSE IV)* at ICSE'08, Leipzig, Germany, 2008.
 - 124) "Improving intelligent assistants for desktop activities," Simone Stumpf, Margaret Burnett, Tom Dietterich, *AAAI Conference on Artificial Intelligence (AAAI'07)*, Vancouver, BC, Canada, July 2007.
 - 125) "Gender HCI: Results To Date Regarding Issues in Problem-Solving Software", Laura Beckwith, Margaret Burnett, Susan Wiedenbeck, Valentina Grigoreanu, *Workshop Proceedings of Gender and Interaction: Real and Virtual Women in a Male World*, Venice, Italy, 1-4, May 2006.
 - 126) "Gender and End-User Computing", Laura Beckwith, Margaret Burnett, and Shraddha Sorte, *Encyclopedia of Gender and Information Technology*, Information Science Publishing, 2006.
 - 127) "An Integrated Software Engineering Approach for End-User Programmers," Margaret Burnett, Gregg Rothermel, and Curtis Cook, in *End User Development*, (H. Lieberman, F. Paterno, and V. Wulf, eds.), Springer, 87-113, 2006.
 - 128) "TaskTracer: Using Machine Learning to Simplify Multi-tasking," Margaret Burnett, Jon Herlocker, Julie Lynn, Simone Stumpf, and Eleanor Wynn, Intel Information Systems and Technology Group Technical Community Conference, Lake Tahoe, Oct. 24-26, 2005.
 - 129) "Mining Qualitative Behavioral Data from Quantitative Data: A Case Study from the Gender HCI Project," Laura Beckwith, Thippaya Chintakovid, Susan Wiedenbeck, and Margaret Burnett, *Proc. Psychology of Programmers Interest Group PPIG 2005 17th Annual Workshop*, Brighton, UK, June 2005.
 - 130) "Six Challenges in Supporting End-User Debugging," Joseph Ruthruff and Margaret Burnett, *Workshop on End-User Software Engineering*, St. Louis, Missouri, May 2005.
 - 131) "Visual Programming," Joseph Ruthruff and Margaret Burnett, in *Encyclopedia of Human-Computer Interaction*, vol. 2, (William Bainbridge, ed.), Berkshire Publishing Group, 791-795, 2004.
 - 132) "Software Engineering for End-User Programmers," Curtis Cook, Shreenivasarao Prahakararao, Martin Main, Mike Durham, Margaret Burnett, and Gregg Rothermel, *CrossTalk: The Journal of Defense Software Engineering*, 20-23, June 2004.
 - 133) "HCI Research Regarding End-User Requirement Specification: A Tutorial," Margaret Burnett, *Knowledge-Based Systems* 16(7-8), Elsevier, 341-349, November 2003. (This paper made the journal's "most downloaded" list in 2004.)
 - 134) "End-User Testing for the Lyee Methodology Using the Screen Transition Paradigm and WYSIWYT," Darren Brown, Margaret Burnett, and Gregg Rothermel, *Knowledge-Based Systems* 16(7-8), Elsevier, 431-440, November 2003.
 - 135) "Representation and Coverage Characteristics of WYSIWYT for Lyee," Darren Brown, Margaret Burnett, and Gregg Rothermel, *International Workshop on Lyee Methodology*, Stockholm, Sweden, 287-302, September 2003.

- 136)“Software Engineering for End-User Programmers,” M. Burnett, G. Rothermel, C. Cook, Perspectives in End-User Development Workshop at CHI’03, April 2003.
- 137)“End-User Testing of Lye Programs: A Preliminary Report,” Darren Brown, Margaret Burnett, and Gregg Rothermel, *International Workshop on Lye Methodology*, Paris, France, October 2002.
- 138)“Assertions in End-User Software Engineering: A Think-Aloud Study” (Tech Note), Christine Wallace, Curtis Cook, Jay Summet, and Margaret Burnett, *IEEE Symposium on Human-Centric Languages*, Sept. 2002.
- 139)“Applying Attention Economics to End-User Programming” (Tech Note), Alan Blackwell and Margaret Burnett, *IEEE Symposium on Human-Centric Languages*, Sept. 2002.
- 140)“Software Engineering for Visual Programming Languages”, Margaret Burnett, *Handbook of Software Engineering and Knowledge Engineering* Vol. 2, (S.-K. Chang, Ed.), World Scientific Publishing Co., 77-92, June 2002.
- 141)“What Visual Programming Research Contributes to Universal Access,” M. Burnett, *HCI International: Conference on Universal Access in Human-Computer Interaction* Vol. 3, New Orleans, 257-260, Aug. 5-10, 2001.
- 142)“Visual Programming”, Margaret Burnett, *Encyclopedia of Electrical and Electronics Engineering* (John G. Webster, Ed.), 275-283, John Wiley & Sons, 1999.
- 143)“Seven Programming Language Issues,” Margaret Burnett, in *Visual Object-Oriented Programming: Concepts and Environments*, (Margaret Burnett, Adele Goldberg, Ted Lewis, eds.), Prentice-Hall, Englewood Cliffs, NJ, 1995.
- 144)“What is Visual Object-Oriented Programming?” Adele Goldberg, Margaret Burnett, and Ted Lewis, in *Visual Object-Oriented Programming: Concepts and Environments*, (Margaret Burnett, Adele Goldberg, Ted Lewis, eds.), Prentice-Hall, Englewood Cliffs, NJ, 1995.
- 145)“A Seamless Integration of Algorithm Animation into a Visual Programming Language with One-Way Constraints,” Paul Carlson and Margaret Burnett, *International Workshop on Constraints for Graphics and Visualization*, Cassis, France, September 1995.
- 146)“Programming Language Issues of Visual Object-Oriented Programming Languages: a Case Study with Forms/3,” Margaret Burnett, *Proceedings of the OOPSLA’93 Post-Conference Workshop on Visual Object-Oriented Programming*, Washington, D.C., October 1993.
- 147)“A Visual Future for Object-Oriented Programming Languages?” Margaret Burnett, *Proceedings of the OOPSLA’92 Pre-Conference Workshop on Object-Oriented Languages: The Next Generation*, Vancouver, Canada, October 1992.

Invited/Position Papers

- 148)“End-User Development”, Christopher Scaffidi and Margaret Burnett, *Interaction Design Encyclopedia*, online at Interaction-Design.org, 2011.
- 149)“The Future of Software Engineering: Enhancing Human Expertise in Tackling Software Quality” (position paper), Margaret Burnett, *ACM FSE/SDP Workshop on the Future of Software Engineering Research*, November 2010, pp. 75-76.
- 150)“Gender HCI: What About the Software?” (Abstract of keynote talk), Margaret Burnett, *28th ACM International Conference on Design of Communication*, Sao Carlos, Brazil, Sept. 27-29, 2010, pp. 251-251.

- 151)“What Is End-User Software Engineering and Why Does It Matter?” (Invited paper), Margaret Burnett, *Second International Symposium on End-User Development*, Siegen, Germany, March 2009.
- 152)“Invited Research Overview: End-User Programming” (Invited paper), Brad Myers, Andrew Ko, and Margaret Burnett, *ACM Conference on Human-Computer Interaction (CHI’06)*, April 2006.
- 153)“A Spreadsheet-Based View of the End-User Software Engineering Concept” (position statement), Margaret Burnett, Curtis Cook, and Gregg Rothermel, *Workshop on Foundations of Spreadsheets*, September 2004.
- 154)“Bringing HCI Research to Bear Upon End-User Requirement Specification” (Invited paper), Margaret Burnett, *International Workshop on Lye Methodology*, Paris, France, October 2002.
- 155)“The Future of Visual Languages” (Panel position paper), S. K. Chang, Margaret Burnett, Stefano Levialdi, Kim Marriott, Joseph Pfeiffer, and Steven Tanimoto, *1999 IEEE Symposium on Visual Languages*, Tokyo, Japan, September 1999.
- 156)“Intelligent Support for Testing in Languages for Blended- and End-User Programmers” (Position paper), Margaret Burnett, Gregg Rothermel, and Curtis Cook, *ACM CHI’99 Workshop on End-User Programmers and Blended-User Programmers*, May 1999.
- 157)“Challenges and Opportunities Visual Programming Languages Bring to Programming Language Research” (Invited talk abstract), Margaret Burnett, *7th International Conference on Compiler Construction (CC’98)*, Lisbon, Portugal, published as LNCS #1383, Springer Verlag, 188-188, March/April, 1998.

Books

- 158)*Visual Object-Oriented Programming: Concepts and Environments*, Margaret Burnett, Adele Goldberg, and Ted Lewis (editors), Manning Publications and Prentice-Hall, 1995. (Co-published by IEEE CS Press. IEEE listed it as one of their top 10 books).
- 159)*Fundamentals of Abstraction and Advanced Programming in Pascal -- A Software Engineering Approach*, William Bulgren and Margaret Burnett, McGraw-Hill, 1992.

Non-Refereed Publications

- 160)“REU in a Box: Expanding the Pool of Computing Researchers”, Patricia Morreale, Margaret Burnett, Ann Gates, Jose Cossa, and Nancy Amato, www.ncwit.org/reubox, National Center for Women in Technology, July 2011.
- 161)“Gender HCI”, Valentina Grigoreanu, Laura Beckwith, Margaret Burnett, Susan Wiedenbeck, Vaishnavi Narayana, Wikipedia, http://en.wikipedia.org/wiki/Gender_HCI, March 3, 2007.
- 162)“Designing for Gender Differences in Problem-Solving Software”, Margaret Burnett, Laura Beckwith, Valentina Grigoreanu, *Proceedings of ITWF & ITR/EFW Principal Investigator Conference*, pp. 187-189, 2006.
- 163)“A Scalable Method for Deductive Generalization in the Spreadsheet Paradigm,” Margaret Burnett, Sherry Yang, and Jay Summet, *interactions*, ACM, Sept./Oct. 2002.
- 164)“Applying a ‘What You See Is What You Test’ (WYSIWYT) Technology to Commercial Spreadsheet Packages: Several Scenarios”, Margaret Burnett and Gregg Rothermel, web-based document, December 1999.

- 165)“Introducing HCI Into Programming Language and Software Engineering Research,” Margaret Burnett, *SERC (Software Engineering Research Center) Newsletter*, 5-6, March 1997.
- 166)“Graphical Definitions,” Herkimer Gottfried, Margaret Burnett, and Jonathan Cadiz, 8-minute video, April 1996.
- 167)“Algorithm Animation in Forms/3,” Paul Carlson, Margaret Burnett, and Jonathan Cadiz, 5-minute video, August 1995.
- 168)“Visual Programming,” Margaret Burnett and David McIntyre, Guest Editors' Introduction to a Special Issue of *Computer*, March 1995.
- 169)“Is It Easier to Write Matrix Manipulation Programs Visually or Textually? An Empirical Study” (Summary), Rajeev Pandey and Margaret Burnett, *Psychology of Programming Interest Group Newsletter* No. 15, October 1994.
- 170)“Visual Programming Languages Bibliography,” Benjamin Summers and Margaret Burnett, WWW page, August 1994. This is a continually-updated document that gets 1000-2500 hits per month. We receive occasional thank-you notes from researchers who rely upon it as a resource.
- 171)“A Taste of Forms/3,” Margaret Burnett, Sherry Yang, and John Atwood, 13-minute video, July 1994.
- 172)“Declarative Visual Languages,” Margaret Burnett and Allen Ambler, Guest Editors' Introduction to a Special Issue of the *Journal of Visual Languages and Computing* 5(1), 1-3, March 1994.
- 173)“Workshop Report—Visual Object-Oriented Programming,” Margaret Burnett, OOPSLA'93 Addendum to the Proceedings of the ACM OOPSLA'93 Conference, January 1994.
- 174)*Abstraction in the Demand-Driven, Temporal-Assignment, Visual Language Model*, Margaret Burnett, Ph.D. Thesis, University of Kansas, August 21, 1991.
- 175)10 articles over semi-technical and business-computer topics such as computer selection, computer security, file management algorithms, and programming techniques, Margaret Burnett, published in popular computer publications between 1983 and 1986.

Press Coverage

- 1) End-User Assessments are Valuable – to a Certain Point, *IEEE Computing Now*, Aug. 17, 2011. (<http://www.computer.org/portal/web/news/home/-/blogs/4525828>)
- 2) End-User Debugging of Machine-Learned Programs, *Science Daily*, *ACM TechNews*, interview in *IEEE Intelligent Systems Magazine*, other places, August-November 2009.
- 3) Gender and Software: *Microsoft Channel 9* interview, June 2009.
- 4) High-Tech Gender Gap, in *ACM TechNews*, *USA Today*, *CNN Money*, *Forbes*, *Time*, *MSNBC*, *Washington Post*, *Chicago Tribune*, *Baltimore Sun*, *Denver Post*, *Boston Globe*, *Federal News Radio*, various CBS stations, *Oregonian*, other places, 2007 and 2008.
- 5) NCWIT Promising Practices: Why Do Research With Undergraduates? National Center for Women In Technology. <http://www.ncwit.org/practices.post.html>. February 2007.
- 6) Making It On Their Own, *CIO Magazine*, May 15, 2005.
- 7) Exterminating Bugs, radio show short on “Imagine That” Radio, April 2005.
- 8) The Dangers of End User Programming, *IEEE Software*, June 2004.
- 9) Debugging for the Masses, *PC Magazine*, May 14, 2004.

- 10) Helping Exterminate Bugs in Spreadsheets, Web Applications, in *ACM TechNews*, *National Science Foundation Press Release*, *Innovations Report*, *Eurekalert*, *NewsWise*, other places, May 6 and 7, 2004
- 11) *National Journal* Technology Daily column, May 6, 2004.
- 12) Working Smarter With Computers, KVAL-TV13, December 16, 2003.

Invited Talks

Invited Talks at Conferences and Workshops

- Keynote*, 19th IEEE International Conference on Program Comprehension, Kingston, Ontario, Canada, June 2011.
- Keynote*, Psychology of Programming Interest Group, Madrid, Spain, September 2010.
- Keynote*, 28th ACM International Conference on Design of Communication, São Carlos, Brazil, September 2010.
- Keynote*, Second International Symposium on End-User Development, Siegen, Germany, March 2009.
- Keynote*, IBM Research Symposium on Human-Computer Interaction, Hawthorne, NY, November 2008.
- Invited Speaker*, ICSE'08 New Faculty Symposium, Leipzig, Germany, May 2008.
- Invited Speaker*, ICSE'08 Workshop on End-User Software Engineering, Leipzig, Germany, May 2008.
- Invited Speaker*, IBM Conference on Situated Software, White Plains, NY, March 2006.
- Invited Speaker*, Workshop on End-User Software Engineering, St. Louis, Missouri, May 2005.
- Invited Speaker*, Workshop on Foundations of Spreadsheets, Rome, Italy, September 2004.
- Keynote*, International Workshop on Lye Methodology, Paris, France, October 2002.
- Keynote*, European Joint Conferences on Theory and Practice of Software: International Conference on Compiler Construction, Lisbon, Portugal, April 1998.
- Keynote*, Prograph Developers Conference, Cupertino, California, October 1994.
- Keynote*, Visual Software and Programming Languages Workshop, Scottsdale, AZ, Oct. 1993.
- Invited Presentation*, OOPSLA'92 Pre-Conference Workshop on Object-Oriented Languages: The Next Generation, Vancouver, Canada, October 1992.
- Panelist*, "Software Engineering Research Grants and NSF 'Broader Impacts': NSF Changes and SE Researcher Strategies," ACM/IEEE International Conference on Software Engineering, Honolulu, Hawaii, May 2011.
- Panelist/SIG Speaker*, "Applying the Broader Impacts Criteria to HCI Research," ACM Conference on Human/Computer Interaction, Vancouver, Canada, May 2011.
- Speaker*, Introducing "REU in a Box", National Center for Women in Technology (NCWIT) Summit, New York, May 2011.
- Panelist*, "End Users: Expressing Intentions Directly to the Computer," International Workshop on Lye Methodology, Paris, France, October 2002.
- Panelist*, "The Future of Visual Languages," 1999 IEEE Symposium on Visual Languages, Tokyo, Japan, September 1999.
- Panelist*, "Visual Languages and Software Engineering," 1999 IEEE Symposium on Visual Languages, Tokyo, Japan, September 1999.
- Panelist*, "Paradigms of Software Science," European Joint Conferences on Theory and Practice of Software, Lisbon, Portugal, April 1998.

Other Invited Talks

University of California Irvine (Institute for Software Research Distinguished Speaker Series)
Irvine, CA, Dec. 2, 2011.

Washington University of St. Louis, St. Louis, MO, Nov. 9, 2011.

Microsoft and Microsoft Research, Redmond, Washington, multiple talks in June and July 2009.

Oregon Institute of Technology, Klamath Falls, Oregon, February 17, 2009.

Microsoft Research, Redmond, Washington, Feb. 6, 2009.

Air Force Research Lab, Mesa, Arizona, Jan. 14, 2009.

Portland State University (CS Dept.), Portland, Oregon, April 28, 2008.

University of Colorado (Center for Cognitive Studies) Boulder, Colorado, Sept. 7, 2007.

University of Colorado (CS Dept.), Boulder, Colorado, Sept. 6, 2007.

IBM T.J. Watson Research Center, Hawthorne, NY, August 1, 2007.

Google Tech Talk, Mountain View, California, April 27, 2007.

Microsoft Research, Cambridge, United Kingdom, August 30, 2006.

IBM T.J. Watson Research Center, Hawthorne, NY, August 1, 2006.

Open University, United Kingdom, June 28, 2005.

University of Nebraska/Lincoln, March 24, 2005.

Stanford University, Palo Alto, California, November 3, 2004.

Microsoft Research, Redmond, Washington, March 23, 2004.

Carnegie Mellon University, Pittsburgh, Pennsylvania, September 10, 2003.

IBM TJ Watson Research Center, New York, September 8, 2003.

SAP, Walldorf, Germany, July 29, 2003.

University of Auckland, New Zealand, April 12, 2002.

Microsoft (TechFest event), with S. Peyton Jones, Seattle, Washington, February 21, 2002.

Institute of Computer Based Software Methodology and Technology, Tokyo, Japan, February 14, 2002.

Darwin College Science Lecture Series, Cambridge, United Kingdom, November 15, 2001.

University of Cambridge, United Kingdom, November 7, 2001.

University of Manchester Institute of Systems and Technology, Manchester, United Kingdom, November 5, 2001.

University of Cambridge, United Kingdom, October 24, 2001.

Microsoft Research, Cambridge, United Kingdom, October 19, 2001.

University of Kent, Canterbury, United Kingdom, October 16, 2001.

Instituto Superior Tecnico, Lisbon, Portugal, September 25, 2001.

McMaster University, Hamilton, Ontario, Canada, July 6, 2001.

University of Pittsburgh, May 19, 1999.

Waikato University, Hamilton, New Zealand, April 30, 1999.

University of Auckland, New Zealand, April 28, 1999.

Monash University, Melbourne, Australia, April 26, 1999.

University of Newcastle, Australia, April 21, 1999.

Macquarie University, Sydney, Australia, April 20, 1999.

Macquarie University, Sydney, Australia, April 9, 1999.

University of Washington, Seattle, Washington, January 1999.

Microsoft, Seattle, Washington, January 1999.

OCATE, Portland, Oregon, May 2, 1997.

FX (Fuji-Xerox) Palo Alto Research Labs, Palo Alto, California, August 1996.

Hewlett-Packard Laboratories, Palo Alto, California, February 1996.
IBM Santa Teresa Lab, San Jose, California, February 1996.
University of Erlangen-Nurnberg, Erlangen, Germany, September 1995.
University of Paderborn, Germany, September 1995.
Hewlett-Packard Laboratories, Palo Alto, California, August 1995.
University of Oregon, Eugene, Oregon, May 1995.
Hewlett-Packard Laboratories, Palo Alto, California, August 1994.
Evergreen College, Olympia, Washington, April 1994.
University of Washington, Seattle, WA, May 1993.
Consorzio Compano di Ricerca per l'Informatica e l'Automazione Industriale, with A. Ambler, Naples, Italy, June 1991.

Visitors Sponsored

Hosted visiting researcher Steve Fickas (Univ. Oregon), December, 2011.
Co-hosted visiting researcher/speaker James Fogarty (Univ. Washington), November 2011.
Hosted visiting researcher Dave Sager (Intel), October 2011.
Hosted visiting researcher Steve Fickas (Univ. Oregon), Oct. 5, 2011.
Hosted visiting researcher Thomas Fritz (Univ. Zurich), June 27, 2011.
Hosted visiting researcher/speaker Nathalie Riche (Microsoft Research), February 2010.
Hosted visiting researcher/speaker Yann Riche (Riche Designs), January 2010.
Hosted visiting researcher David Luginbuehl (Air Force Office of Scientific Research), September 2009.
Hosted visiting researcher/speaker Christopher Scaffidi (Carnegie Mellon University), June 2, 2008.
Hosted visiting researcher/speaker Rob Miller (MIT), May 5, 2008.
Hosted visiting researcher Gregg Rothermel (Univ. Nebraska), April 2007.
Hosted visiting researchers Sam Adams, Allen Cypher, and Rachel Bellamy (IBM), November 2006.
Hosted visiting researcher Gregg Rothermel (Univ. Nebraska), November 2006.
Hosted visiting researcher Peter Sestoft (IT University of Copenhagen), October 2006.
Hosted visiting researcher/speaker Andrew Ko (Carnegie Mellon), October 2006.
Hosted visiting researcher/speaker Sam Adams (IBM), June 2006.
Hosted visiting researcher/speakers Mary Czerwinski, Rob DeLine, and Gina Venolia (Microsoft Research), October 2005.
Hosted sabbatical visitor Sherry Yang (Oregon Institute of Technology), Sept. 2005-March 2006.
Hosted visiting researcher Steve Fickas (Univ. Oregon), May 2005.
Hosted visiting researcher/speaker Mary Beth Rosson (Pennsylvania State University), May 2005.
Co-hosted visiting researcher/speaker Tessa Lau, (IBM T.J. Watson Research Lab.), April 2005.
Hosted visiting researcher/speaker Alistair Sutcliffe, (Manchester University, U.K.), November 2004.
Hosted visiting researcher/speaker Ray Panko, (Univ. Hawaii), August 2004.
Hosted visiting researcher Gregg Rothermel, (Univ. Nebraska), approximately once per month July 2004-April 2005.
Hosted visiting researcher/speaker Steven Clarke, (Microsoft), June 1, 2004.

Hosted meeting of visiting researchers who are part of the EUSES Consortium, from Carnegie Mellon Univ., Penn. State Univ., Drexel Univ., and Univ. Nebraska, Oct. 2003.
Hosted visiting researcher Hamido Fujita (Iwate Prefectural University, Japan), Oct. 2002.
Hosted visiting researcher/speaker Thomas Green (Cambridge, U.K), Feb. 2001.
Hosted visiting researcher/speaker Emmanuel Pietriga (Xerox Research Centre, Europe), September 2000.
Hosted visiting researcher/speaker Thomas Green (Cambridge, U.K), July 2000.
Hosted visiting researcher/speaker Thomas Green (Cambridge, U.K), July 1999.
Hosted visiting researcher/speaker Trevor Smedley (Dalhousie University, Canada), May-June 1998.
Hosted visiting researcher/speaker Allen Cypher (Palo Alto, CA), 1998.
Hosted visiting researcher Kensei Tsuchida (Toyo University, Japan), 1997-8.
Hosted visiting researcher/speaker Enn Tyugu (Royal Institute of Technology, Sweden), 1997.
Hosted visiting researcher/speaker Steven Tanimoto (University of Washington), 1997.
Hosted visiting researcher/speaker John Launchbury (Oregon Graduate Institute), 1997.
Hosted visiting researcher/speaker Simon Peyton Jones (University of Glasgow), 1996.
Hosted visiting researcher/speaker John Stasko (Georgia Tech.), 1996.
Hosted visiting researcher/speaker Brad Vander Zanden (Univ. Tennessee), 1996.
Hosted visiting researcher/speaker Thomas Green (Cambridge, U.K), 1995.
Hosted visiting researcher/speaker David Gilmore (Nottingham, U.K), 1995.

Service

Research Service and Leadership Activities

Founding Project Director: EUSES Consortium (2003-2009). A group of researchers across six (initially) universities investigating ways to increase the reliability of software created or shaped by end users. (Now 10 institutions.)

Founding Chair: Graduate/Doctoral Student Consortium, IEEE Symposium on Visual Languages and Human-Centric Computing (Chair 2003. Panelist/committee member 2003, 2014, 2005, 2012).

National Center for Women and Technology (NCWIT): 2006-present.

Co-Chair 2011-2013, Executive Committee, NCWIT Academic Alliance. (Member Executive Committee 2010-2013).

Co-chair: "REU-in-a-box" team for NCWIT, 2010-2011.

Contributed to the REU "Best Practice" for NCWIT, 2007.

Chair, Seed Grant Review Committee, May-July 2007.

Advisory Board: Northwest Computer Science Consortium to Enhance the Study of Climate Change (based in Olympia, Washington), 2011-2014.

Steering Committee: ACM Symposium on Software Visualization: Steering Committee 2005-2010.

Steering Committee: IEEE Symposium on Visual Languages and Human-Centric Computing: 1998-2002, 2002-2006, 2006-2010. (Chair Sept. 2000-Sept. 2001; Vice Chair Sept. 2002-Sept. 2003.)

General Co-Chair: International Symposium on End-User Development, 2013.

General Co-Chair: 1997 IEEE Symposium on Visual Languages.

Editorial Boards:

Editorial board: *Journal of Visual Languages and Computing*. 1998-2002.

Editorial board: *Handbook on Software Engineering & Knowledge Engineering*, (S.-K. Chang, ed.) 2001.

Editorial advisory board: *Human Centric Visualizations: Theories, Methodologies and Case Studies* (Tony Huang, ed.), Springer, 2012.

Guest Editor:

Special Issue on End-User Software Engineering, *IEEE Software*, IEEE, with Andrew Ko, Robin Abraham, and Brad Myers, 2009.

Special Issue, *Journal of Visual Languages and Computing*, Academic Press, with Wayne Citrin, August 1997.

Special Issue on Visual Programming Languages and Environments, *Computer*, IEEE, with David McIntyre, March 1995.

Special Issue on Declarative Visual Programming Languages, *Journal of Visual Languages and Computing*, Academic Press, with Allen Ambler, March 1994.

Program (Co-)Chair:

2013 IEEE Symposium on Visual Languages and Human Centric Computing.

2008 ACM Conference on Human Factors in Computing Systems.

2006 ACM Symposium on Software Visualization.

2003 IEEE Symposium on Visual Languages and Human Centric Computing.

1996 IEEE Symposium on Visual Languages.

Program Committees:

ACM Conference on Human Factors in Computing Systems: 2008 (Papers Co-Chair).

ACM Conference on Programming Language Design and Implementation, 1997.

ACM International Conference on Functional Programming: 2002.

ACM Symposium on Software Visualization: 2003, 2005, 2006 (Program Co-Chair), 2008, 2010.

ACM International Symposium on the Foundations of Software Engineering, 2012.

ACM/IEEE International Conference on Automated Software Engineering, 2011.

ACM/IEEE International Conference on Software Engineering, 2007, 2013.

Advanced Visual Interfaces: 2004, 2006, 2008, 2010, 2012.

ACM/IEEE ICSE'10 "NIER" (New Ideas and Emergent Results Track).

IEEE Symposium on Visual Languages and Human Centric Computing: 1992-1995, 1996 (Program Co-Chair), 1997-2002, 2003 (Program Co-Chair), 2004-2007, 2009-2012, 2013 (Program Co-Chair).

International Symposium on End-User Development: 2009, 2011.

Psychology of Programming Interest Group: 2003, 2007, 2010.

Workshops Committee, ICSE10 (to select which ICSE'10 Workshop Proposals to accept).

Workshop on Behavior-Based User Interface Customization (an ACM IUI Workshop): 2004.

Workshop on BEyond time and errors: novel evaLUation methods for Information Visualization (BELIV'06, an AVI'06 workshop).

Workshop on Flexible Modeling Tools (an ICSE'10 Workshop), 2010.

Workshop on The Visual End User: 2000.

Workshop: User Evaluation for Software Engineering Researchers (USER'12, an ICSE'12 Workshop), 2012.

Co-organizer: Panel/SIG at ACM CHI'11 on how HCI researchers can meet the NSF Broader Impacts criteria, 2011.

Co-organizer: Panel at ACM/IEEE ICSE'11 on how Software Engineering researchers can meet the NSF Broader Impacts criteria, 2011.

Organizer, Dagstuhl Seminar on End-User Software Engineering, February 2007, with Gregor Engels, Brad Myers, and Gregg Rothermel.

Publicity Chair, 2003 International Conference on Software Engineering.

Publicity Chair, 2000 IEEE Symposium on Visual Languages.

SIG Co-Organizer: Special Interest Group session on End-User Software Engineering (at ACM CHI 2004, 2005, 2007, 2008, 2009, 2010).

Tutorials Chair, 1997 ACM Conference on Multimedia.

Tutorials Chair, 1992 IEEE Workshop on Visual Languages, Seattle.

Workshops Co-Chair, 2013 ACM/IEEE International Conference on Software Engineering, with Holger Geiss.

Workshops Co-Chair, 2007 ACM Conference on Human Factors in Computing Systems, with JJ Cadiz.

Workshop Organizer, CHI'12 Workshop on End-user Interactions with Intelligent and Autonomous Systems, with Simone Stump, Weng-Keen Wong, and Volkmar Pipek.

Workshop Organizer, ICSE'08 Workshop on End-User Software Engineering, with Robin Abraham and Mary Shaw.

Workshop Organizer, CHI'06 Workshop on End-User Software Engineering, with Brad Myers, Mary Beth Rosson, and Susan Wiedenbeck.

Workshop Organizer, ICSE'05 Workshop on End-User Software Engineering, with Gregg Rothermel, Sebastian Elbaum, Brad Myers.

Workshop Organizer, ACM OOPSLA'93 Workshop on Visual Object-Oriented Programming, with Adele Goldberg and Ted Lewis, October 1993.

Also a Reviewer for:

Journals:

ACM Transactions on Computer-Human Interaction
ACM Transactions on Programming Languages and Systems
ACM Transactions on Software Engineering and Methodology
Australian Computer Journal, Special Issue on Software Visualization
Automated Software Engineering
Computer (IEEE)
IEEE Computational Science & Engineering
IEEE Transactions on Computers
IEEE Transactions on Software Engineering
International Journal of Human Computer Studies
International Journal of Software Engineering and Knowledge Engineering
International Journal on Very Large Data Bases
Journal of Visual Languages and Computing (Academic Press)
Journal of Functional Programming (Cambridge University Press)
Object-Oriented Systems (Chapman & Hall)
Software: Practice and Experience (John Wiley and Sons)
The Computer Journal (Oxford University Press)

Funding Agencies:

National Science Foundation
Engineering and Physical Sciences Research Council, United Kingdom
Australian Research Council
Natural Sciences and Engineering Research Council of Canada
Italian Ministry for Universities and Research

NSF Review Panel Member: 1993, 1994, 1996 (twice), 1997, 1998, 1999, 2000, 2001, 2004 (twice), 2005 (twice), 2006, 2008, 2009, 2010, 2011 (twice).

External PhD Committees:

Paul Gross, Washington University of St. Louis, MO, 2011-present.

Brian Lim, Carnegie Mellon University, Pittsburgh, PA, 2011-2012.

Robert Sheehan, University of Auckland, Auckland, New Zealand, 2004 (external examiner).

Richard Lin, Monash University, Melbourne, Australia, 2000 (external examiner).

Mentor:

Computing Research Association, CRA-W Distributed Mentor Program, June-Sept. 2002, June-Sept. 2004.

Mentor to individual undergraduate REU students continuously from 1992-present.

Mentor to individual Saturday Academy ASE high school research students 2004-2006, 2008-2012.

Mentor to junior faculty members continuously from 1996-present Gregg Rothermel, Jon Herlocker, Martin Erwig, Carlos Jensen, Xiaoli Fern, Christopher Scaffidi, Alex Groce, Shaowen Bardzell (Indiana Univ.), Glencora Borradaile, Simone Stumpf (postdoc), Yann Riche (postdoc), Scott Fleming (postdoc), Irwin Kwan (postdoc).

University Service

2011/2012:

Chair (fall), Member (spring): EECS promotion and tenure dossier committee.

EECS grad admissions committee.

2010/2011:

EECS promotion and tenure dossier committee.

EECS hiring committee.

EECS awards committee.

EECS grad admissions committee.

2009/2010:

EECS promotion and tenure committee.

EECS awards committee.

EECS grad admissions committee.

2008/2009:

EECS promotion and tenure committee.

(Also on sabbatical all academic year.)

2007/2008:

EECS promotion and tenure committee.

Chair: Computer science hiring committee.

EECS grad admissions committee.

2006/2007:

University promotion and tenure committee.

EECS grad admissions committee.

2005/2006:

University promotion and tenure committee.

EECS promotion/tenure committee.

EECS grad admissions committee.

2004/2005:

University promotion and tenure committee.

EECS promotion/tenure committee.

EECS hiring committee.

EECS grad admissions committee.

2003/2004:

EECS promotion/tenure committee.

EECS hiring committee.

EECS grad admissions committee.

2002/2003:

Oregon Space Grant Advisory Board.

College: Updated and presented the CS Department introduction section of the video.

Chair, Departmental Hiring Committee (tenure track position).

Departmental Undergraduate Committee.

Departmental Focus Group Team Leader for anticipated merger, Graduate Admission Procedure

Departmental Promotion/Tenure Committee.

Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.

2001/2002: On sabbatical.

2000/2001:

Oregon Space Grant Advisory Board.

University Faculty Recognition and Awards Committee.

Departmental Hiring Committee.

Departmental Student Development Committee (Chair).

Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.

1999/2000:

Oregon Space Grant Advisory Board.

University Faculty Recognition and Awards Committee.

Departmental Scholarship Committee.

Departmental Rep: Beaver Open House

Departmental Hiring Committee.

Departmental Library Representative

Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.

1998/1999:

Oregon Space Grant Advisory Board.

University Faculty Recognition and Awards Committee.

College of Engineering Hiring Committee for Chemical Engineering Department Head and Kuse Chair.

Departmental Graduation Reception Committee (Chair)

Departmental Rep: Beaver Open House

Departmental Hiring Committee.

Departmental Promotion and Tenure and Faculty/Staff Awards Committee.

Departmental Library Representative

Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.

1997/1998:

Oregon Space Grant Advisory Board.

College of Engineering Graduation Representative: Computer Science.
Departmental Graduation Reception Committee (Chair)
Departmental MSE Hiring Committee.
Departmental Library Representative
Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.
Graduate Committee

1996/1997:

Oregon Space Grant Advisory Board.
College of Engineering Committee to Select Computer Science Interim Head.
College of Engineering Committee on Pay Equity.
Departmental Library Representative
Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.

1995/1996:

Oregon Space Grant Advisory Board.
Departmental Executive Committee.
Graduate Student Recruitment (selected tasks)
Departmental Library Representative
Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.

1994/1995:

Martin-Rudd Joint Science/Computer Science Scholarship Committee.
Mentoring Committee (Chair)
Departmental Library Representative
Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.

1993/1994:

Departmental Library Representative
Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.

1992/1993:

Beaver Bits. Founder and Editor-in-Chief of Beaver Bits, the newsletter for the department.
Graduate Committee
Colloquium Committee (Chair)

1991/1992:

Department Advancement Committee (Chair)
Colloquium Committee (Chair)
Department Head Recruitment Committee

Teaching and Direction of Students

Direction of Student Research

As Major Professor:

Christopher Bogart, Ph.D. in progress. Refereed publications: 9 conference, 1 journal.

Jill Cao, Ph.D. in progress. Refereed publications: 7 conference, 3 journal. **ACM CHI Best Paper Honorable Mention: 2010, IEEE VLHCC Best Paper Award: 2011.**

Todd Kulesza, M.S. 2009, Ph.D. in progress. Refereed publications: 6 conference, 1 journal.
ACM CHI Best Paper Honorable Mention: 2012

David Piorkowski, M.S./Ph.D. in progress. Refereed publications: 3 conference, 1 journal.

Irwin Kwan post doc (2011-present). Refereed publications: 1 conference, 2 journal. **ACM CHI Best Paper Honorable Mention: 2012.**

Valentina Grigoreanu, Ph.D. 2009, (MS 2007). Refereed publications: 8 conference, 1 magazine, 3 journal. **ACM CHI Best Paper Honorable Mention**: 2010. User Experience Researcher at Microsoft.

Joseph Lawrance, Ph.D. 2009 (M.S. 2005). Refereed publications: 7 conference, 4 journal. **ACM CHI Best Paper Honorable Mention**: 2008. **IBM PhD Scholarship**. Postdoc at MIT. Now Assistant Professor, Wentworth Institute of Technology, Boston, MA.

Vaishnavi Narayanan, M.S. Sept. 2007. Refereed publications: 2 conference. Joined Microsoft in 2007.

Neeraja Subrahmaniyan, M.S. Sept. 2007. Refereed publications: 3 conference. Joined Microsoft in 2007.

Laura Beckwith, Ph.D. April 2007 (M.S. Nov. 2002). Refereed publications: 10 conference, 1 journal, 1 magazine, 2 workshop/encyclopedia. Joined Microsoft in 2007.

Flora Tan, M.S. June 2006.

Vidya Rajaram, M.S. 2006. Refereed publications: 2 conference, 1 journal. User Experience Researcher at Microsoft.

Cory Kissinger, M.S. May 2006. Refereed publications: 3 conference. Senior Consultant at Revere Group.

Shraddha Sorte, M.S. October 2005. Refereed publications: 2 conference, 1 workshop/encyclopedia. Senior User Experience Designer at NetApp.

Amit Phalgune, M.S. October 2005. Refereed publications: 3 conference. Lead Engineer at Qualcomm.

Zheng Liu, M.S. July 2004.

Joseph Ruthruff, M.S. July 2004. Refereed publications: 2 journal, 6 conference, 2 workshop/encyclopedia. **NSF Graduate Research Fellowship Honorable Mention** 2003. Researcher at Sandia National Lab.

T.J. Robertson, M.S. March 2004. Refereed publications: 1 journal, 1 conference.

Eugene Rogan Creswick, M.S. June 2004. Refereed publications: 1 journal, 2 conference. AI Software Engineer at Stottler Henke Associates.

Darren Brown, (Co-Major Professor), M.S. May 2003. Refereed publications: 3 conference, 1 journal. Software Engineer at Strands.

Bing Ren, M.S. June 2001. Refereed publications: 1 journal, 1 conference. Now at Nike.

Miguel Arredondo-Castro, M.S. May 2001. Refereed publications: 1 journal. Now at SeeByte.

Sudheer Chekka, M.S. July 2001. Refereed publications: 1 conference. Technical Lead at Juniper Networks.

Jay Summet, M.S. July 2001. Refereed publications: 1 journal, 1 conference. Lecturer, Georgia Institute of Technology.

James (Dusty) Reichwein, M.S., June 2000. Refereed publications: 2 journal, 1 conference. Now at BAE Systems.

Nanyu Cao, M.S., June 2000. Refereed publications: 1 journal, 1 conference. Senior Software Engineer at Thomson Grass Valley.

Andrei Sheretov, M.S., January 2000 (jointly advised with Gregg Rothermel). Refereed publications: 2 journal, 1 conference. Senior Engineer, Software Security at Motorola Mobility.

Roger Chen, M.S., September 1999. Refereed publications: 1 journal. Innovation Architect at Nike.

Rebecca Walpole Djang, Ph.D. 1998. Refereed publications: 2 journal, 3 conference. **NASA Graduate Fellowship.**

David Hackenyos, M.S. August 1998.

Sunanda Mishra, M.A.I.S. April 1998.

Anurag Agrawal, M.S. July 1997. Refereed publications: 1 journal. Now at Google.

Herkimer Gottfried, M.S. December 1996. Refereed publications: 2 journal, 2 conference. Senior Software Engineer at Fiserv.

Sherry Yang, Ph.D. 1996. Refereed publications: 6 journal, 2 conference. Professor at Oregon Institute of Technology.

John Atwood, M.S. January 1996. Refereed publications: 1 journal, 4 conference. Software Engineer at Hewlett-Packard.

Paul Carlson, M.S. April 1995. Refereed publications: 1 journal, 1 conference. Director of Crew Planning and Analysis at United Airlines.

Pieter van Zee, M.S. February 1995. Refereed publications: 2 journal, 1 conference. Chief Technologist, Retail Publishing, at Hewlett-Packard.

Postdocs mentored:

Yann Riche, postdoc summer 2009. Refereed publications: 2 conference long papers, 1 conference short paper. User Experience Researcher at Microsoft, **ACM CHI Best Paper Honorable Mention: 2010.**

Simone Stumpf, post-doc, co-advised with Jon Herlocker 2006-2008. Grants co-PI'd: 2 (NSF, Intel). Refereed publications: 1 journal, 3 conference, 2 other. Now Lecturer (equivalent to Assistant Professor), City University London, UK.

Scott Fleming, post doc (2009-2011). Refereed publications: 5 conference, 3 journal. Now Assistant Professor, University of Memphis, **IEEE VLHCC Best Paper Award: 2011.**

Funded undergraduate student research experiences mentored:

Hannah Adams (2011-2012 REU through Ellen Momsen's funding). Refereed publications: 1 conference, **2012 Google Anita Borg Scholarship finalist**

Josh Jordahl (2012 REU).

Rachel White (2011-2012 REU). Refereed publications: 2 conference.

Forrest Bice (summer 2011 REU; Northeastern Univ.) Refereed publications: 1 conference.

Amber Shinsel (Tektronix scholar 2008-2009, NSF REU 2009-2011). Refereed publications: 4 conference.

William Curran, (NSF REU 2010-2011). Refereed publications: 1 conference.

Jarrod Jackson (undergrad researcher on AFOSR grant 2009-2010). Co-mentored by Christopher Scaffidi.

Kevin McIntosh (NSF REU 2009-2010). Refereed publications: 3 conference. **ACM IUI Best Paper Nominee: 2011.**

Kyle Rector (female. Tektronix scholar 2006, NSF REU 2006-2010). Refereed publications: 6 conference (one with a **Best Paper Award Hon. Mention**), 3 journal. **NSF Graduate Fellowship, 2010 Google Anita Borg Scholarship, Waldo-Cummings Honorable mention, CRA Outstanding Research Undergraduate finalist.**

Stephen Perona (provided partial funding under NSF REU 2008. Mentored and co-funded by Weng-Keen Wong).

Nicholas Schultz (NSF REU 2007-2008).

Derek Inman (NSF REU 2006-2008). Refereed publications: 2 conference.

Andrew Stucky (NSF REU 2005-2007).

Erin Sullivan (Tektronix/Intel scholar 2006-2007). Refereed publications: 1 conference. Co-mentored with Simone Stumpf.

Evelyn Perez Wick (NSF REU 2004-2005), funded by Tom Dietterich and Jon Herlocker. Co-mentored with Simone Stumpf.

Irene Cooperstein Cole (CRA-W summer 2004, co-mentored with Martin Erwig). Refereed publications: 1 conference.

Aye Thuzar (CRA-W summer 2004). Refereed publications: 1 journal.

Andrew Christmann (NSF REU 2004-05).

Michael Durham (NSF REU 2003-04, co-mentored with Curtis Cook). Refereed publications: 2 conference.

Orion Granatir (NSF REU 2002-03). Refereed publications: 1 conference.

Ledah Casburn (CRA-W summer 2002). Refereed publications: 1 conference.

Aaron Wilson (NSF REU 2001-02). Refereed publications: 1 conference.

Andrew Ko (NSF REU 1999-01). Refereed publications: 1 journal, 2 conference. **Waldo-Cummings award, CRA Outstanding Research Undergraduate honorable mention, NSF Graduate Fellowship.**

Frank Cort (NSF REU 1998-9).

Zachary Welch (NSF REU 1997-8). Refereed publications: 1 conference.

Chris DuPuis (NSF REU 1996-7). Refereed publications: 1 conference.

Maureen Chesire (NSF 1996). Refereed publications: 1 conference.

Eric Wilcox (NSF REU 1995-6). Refereed publications: 2 conference.

J. J. Cadiz (NSF REU 1995-6). Refereed publications: 2 conference, **Waldo-Cummings award.**

Marla Baker (NSF REU 1993-4). Refereed publications: 2 journal, **Rhodes Scholarship finalist, NSF Graduate Fellowship.**

Of these undergraduate students who have graduated so far, about 75% have gone on to graduate school at Carnegie I institutions.

Funded high-school student research experiences mentored:

Rachel Pearce-Smith (Saturday Academy ASE, summer 2011, co-mentored with Jill Cao and Hannah Adams).

Damian Kulp (Saturday Academy ASE, summer 2011, co-mentored with Todd Kulesza, Forrest Bice, and Hannah Adams).

Nicole Usselman (Saturday Academy ASE, summer 2010, co-mentored with Jill Cao and Kevin McIntosh). **National Runner-Up, NCWIT Aspirations in Computing Award, 2011.**

Jeremy Goodrich (Saturday Academy ASE, summer 2010, co-mentored with Todd Kulesza and Kevin McIntosh).

Forrest Bice (Saturday Academy ASE, summer 2009 and 2010, co-mentored with Todd Kulesza). 1 paper.

Diana Salazar (Saturday Academy ASE, summer 2009, co-mentored with Jill Cao).

Rachel White (Saturday Academy ASE, summer 2008, co-mentored with Todd Kulesza).
Refereed publications: 1 conference.

Akshay Subramanian (Saturday Academy ASE, summer 2008, co-mentored with Todd Kulesza).

Russell Drummond (Saturday Academy ASE, summer 2006, co-mentored with Neeraja Subrahmaniyan and Vidya Rajaram). Refereed publications: 2 conference.

Karin Bucht (Saturday Academy ASE, summer 2006, co-mentored with Valentina Grigoreanu). Refereed publications: 1 conference.

Sienna Hiebert (Saturday Academy ASE, summer 2005, co-mentored with Laura Beckwith).

Michelle Hastings (Saturday Academy ASE, summer 2004, co-mentored with Laura Beckwith). Refereed publications: 1 conference.

As Committee Member:

Eric Walkingshaw, Ph.D. in progress.

Tuan Pham, Ph.D. in progress.

Jordan Strawn, M.S. 2010.

Ian Oberst, M.S. 2010.

Eunyoung Chung, M.S. 2010.

Jonathan Dodge, M.S. November 2009.

Marc Fisher, Ph.D. 2008.

Robin Abraham, Ph.D. April 2007.

Deling Ren, Ph.D. 2006.

Lida Li, M.S. 2006.

Xin Wang, Ph.D. 2006.

Shuzhen Nong, M.S. 2004.

Tyler Creelan, (Minor Professor), M.S. August 2004.

Matthew McLaughlin, M.S. 2004.

Alexey Malishevsky, Ph.D. June 2003.

Zhe Fu, Ph.D.

Mansour Al-Mutairi, (Minor Professor), M.S. May 2003, Ph.D.

Shrinu Prabhakararao (Minor Professor), M.S. 2003.

Xuemei Qiu (Minor Professor), M.S. 2002.

Charu Chandiram, M.S. 2001

Chengyun Chu, M.S. 2001.

Dalai Jin (Minor Professor), M.S. 2001.

Christine Wallace (Minor Professor), M.S. 2001.

Shiwei Zhao (Minor Professor), M.S. 2001.

Rongliang Chen (Minor Professor), M.S. 2000.

Mingming Cao (Minor Professor), M.S. 2000.
Mahesh Ambravaneswaran, (Minor Professor), M.S. 2000.
Karen Rothermel (Minor Professor), M.S. 2000
Kent Sayre, M.S. 1999.
Chih Lai, Ph.D.1999.
Mohan Choodamani, M.S. October 1999.
Alexey Malishevsky, M.S. 1998
Jainay Dedhia, M.S. October 1998.
Vikram Anantha (Minor Professor), M.S. 1998.
Thomas Godin (Minor Professor), M.S. 1998.
Liu Yi, M.S. 1998.
Nagajagadeswar Seelam, M.S. 1998.
Hugh Vidos (Minor Professor), M.S. 1997
Sreekanth Nagarajan, M.S. 1997.
Julianne Monell, M.S. 1997
Lixin Li (Minor Professor), M.S. 1997
Carisa Bohus (Minor Professor), M.S. 1996
Akash Pai (Minor Professor), M.S. 1996
Shikha Gottfried M.S. 1996
Mark Newsome, Ph.D. 1996.
Vinod Sirimalle (Minor Professor), M.S. 1996.
Robert Miles, M.S. June 1994.
Pongsaya Hongswadhi , M.S. 1994
Steven Kollmansberger, M.S.
Sreekumar Natarajan (Minor Professor), M.S. (ECE) 1994
Rui Liu, M.S. 1994.
Yiqing Zhou (Minor Professor), M.S. 1994
Rebecca Walpole, M.S. 1994
Soe-Tsyr Yuan, Ph.D. 1994
Lihua Zhao, M.A. 1993.
Jiang Zhu, Ph.D. 1993.
Jiao-Jie Zhao M.S. 1992
Paul Wiedemeier, M.S. 1992
Dianne Marsh, M.S. 1992
Prashanth Narasimha, M.S. 1992

Courses Taught

CS 569, Empirical Methods for Software Engineering: 4 hours, graduate. (Spring 2007, 2008; Winter 2011).
CS 584, HCI of Programming Languages: 4 hours, graduate. (Spring 2006, Spring 2008, Spring 2010, Winter 2012).
CS 589, Visual Programming Languages/HCI of Programming Languages/Empirical: 4 hours, graduate. (Spring 1994, 1995, 1997; Winter 1999, 2001, 2008; Spring 2003, 2004, 2007(co-listed with 569); Fall 2010, 2011).
CS 589, Object-Oriented Programming Languages: 4 hours, graduate. (Fall 1993)
CS 581 (aka CS 535 at Michigan Tech), Advanced Programming Languages: 4 hours, graduate. (Winter 1991/1992, 1994, 1996, 1998, 2000, 2005).

CS 511 Operating Systems: 4 hours, graduate, combined with CS 411. (Fall 1997, 1998).
Visual Programming Languages Readings Group: a no-credit directed readings course for graduate students meeting once per week. (Winter 1993, Spring 1993).
Visual Programming Languages Research (credit): 3 hours, graduate-level course meeting three times per week (Spring 1993, Summer 1993). This involved extensive reading and analysis, and culminated in a survey paper (published in IEEE's *Computer*, 1995). To participate, students signed up for independent study.
Visual Programming Research (non-credit): I direct a research group that at first consisted solely of my own research students (graduate and undergraduate), but now also includes some of Dr. Cook's and Dr. Rothermel's students. Meets once to twice per week to discuss readings, research ideas, and implementation matters. Some of our research and sabbatical visitors also attend these meetings. Usual number of attendees is approximately 12-15.

CS 411, Operating Systems II: 4 hours, junior/senior (Fall 1995; Fall 1996 with C. Pancake; Fall 1997, 1998, 2003; Spring 2004).
CS 410 (Michigan Tech), File Structures: 4 hours, junior/senior. (Winter 1991/1992, Spring 1992)
CS 391, Social and Ethical Issues in Computer Science: 3 hours, undergraduate (Fall 1994 with L. Crowl)
CS 381 (aka CS 420 at Michigan Tech) Programming Languages: 4 hours, junior/senior. (Fall 1991; Spring and Fall 1992; Winter 1993, 1995; Winter and Spring 1996; Fall 1996; Spring and Fall 1997; Spring and Fall 1998; Winter and Fall 1999; Spring and Fall 2000; Fall 2002).
CS 361, Software Engineering I: 4 hours, juniors. (Fall 2004, 2006; Winter 2005, 2006, 2008).
CS 352, Human Computer Interaction: 4 hours, juniors (Winter 2010, 2011, 2012).
CS 161, Introduction to Computer Science I: 4 hours, freshman (Winter 2001).
CS 101, Computer Applications and Implications: 3 hours, freshman (Winter 1995 with T. Budd).