Janet E. Burge
jburge@coloradocollege.edu
719-389-6539 (Office)

Education

- Worcester Polytechnic Institute Computer Science Ph.D. (2005)
- Worcester Polytechnic Institute Computer Science MS (1999)
- Michigan Technological University Computer Science BS (1984)

Experience

Associate Professor, Colorado College, 7/2016 – present

Taught courses on Computational Thinking (Python), Computer Science I, Web Programming (Ruby/Rails), Data Science, and Software Design. Supervised undergraduate students on projects using Design Rationale in education, extracting rationale from text documents using Ant Colony Optimization and Genetic Algorithms for feature selection, building a mobile application to reduce the amount of food waste on campus, 3-D rendering, building a prototype vaccination scheduling system, an anonymous messaging system for the CSGA, automating the course approval process, and understand how tools and information are used during software design meetings.

Associate Professor, Wesleyan University, 7/2014 – 7/2016

Taught courses on Software Engineering (Ruby/Rails) and Object-Oriented Programming (Java). Supervised undergraduate students on several research projects: building a web-based Design Rationale Management System (Ruby/Rails/MySQL integrated with Google Docs), using machine learning techniques to extract Design Rationale from text documents (GATE, WEKA), and integrating design rationale with a Learning Management System to encourage students to consider more alternatives when designing software.

Associate Professor (promoted and tenured 7/2011), Miami University, 8/2005-7/2014

Taught courses on Software Engineering, Requirements Engineering, Human Computer Interaction, Machine Learning, and Object-Oriented Programming. Led several research projects:

- Integrating Communication into the Computer Science and Software Engineering Curriculum. Lead investigator on an $800,000 NSF grant. This project involved thirteen different institutions developing communication-focused assignments in a variety of courses.
- Rationale Extraction from Existing Documents. Supported by a $500,000 NSF CAREER award. Investigated using machine learning techniques to identify design rationale in unstructured documents.
- Software Engineering Using RATionale (SEURAT). Continued development on an Eclipse Plug-In now released as open source:
  https://github.com/burgeje/SEURAT

Led several outreach projects: two Girls on the Go Summer Camps (weeklong camps to teach Android development to female HS students) and held outreach dinners for Miami undergraduates and female HS students to learn more about Computer Science careers.

Associate Senior Scientist, Charles River Analytics, 5/1997-8/2005

Led projects using genetic algorithms and belief networks for military decision-making applications for AFRL, ARL, and CECOM. Responsibilities included software development, project management, customer demonstrations, and proposal writing. Brought in over 1.5 million dollars in research funding.

Instructor, Worcester Polytechnic Institute, 9/2000 – 5/2005

Taught graduate-level Software Engineering and undergraduate Machine Organization and Assembly Language as the instructor-of-record (designed course, taught course, supervised teaching assistants).

Teaching Assistant, Worcester Polytechnic Institute, 1/1997-5/1998

Assisted in Machine Organization and Assembly Language, Human Computer Interaction, and Algorithms courses. Responsibilities included leading laboratory sessions, office hours, and grading.

Senior Technical Applications Specialist, Fidelity Investments, 9/1995-12/1996

Assisted in development of an Expert System based on Gensym's G2 to monitor Fidelity's midrange computer systems. Errors were detected by analyzing system logs in real-time. The expert system detected the error, diagnosed it, and provided operations personnel with instructions on how to make the repair.

Senior Engineer, Raytheon Company, 6/1984-9/19995

Worked on software design, development, integration, and test for projects in domains such as Air Traffic Control, National Missile Defense, Theater Battle Management, and Over the Horizon Radar. Spent several years in off-site work integrating and fielding radar systems, including 15 months working in the Aleutian Islands. Duties in the Aleutian Islands included working as shift supervisor during radar operations—monitoring system status and responding to crisis situations by diagnosing problems and coordinating repairs.

External Grants Awarded

Spring, 2010: Research Experiences for Undergraduates, CPATH: Incorporating Communication Outcomes into the Computer Science Curriculum, National Science Foundation (Janet Burge PI, Co-PIs: Jerry Gannod, Paul Anderson), **$16,000**

Fall, 2009: CPATH: Incorporating Communication Outcomes into the Computer Science Curriculum, National Science Foundation (Janet Burge PI, Co-PIs: Jerry Gannod, Paul Anderson, MU, Mladen Vouk, Michael Carter, North Carolina State University). **$800,000** ($445,136 Miami)

Summer, 2009: CAREER: Rationale Capture for High Assurance Systems, National Science Foundation, **$527,864**

Fall, 2007: “The Software Communication Chautauqua Series” National Science Foundation (Charles Wallace, Michigan Technological University, PI, Paul Anderson, MU, and Marika Seigel, MTU, Co-PIs). **$59,794** ($34,582 Miami)

Fall, 2006: “Automated Software Analysis and Visualization” Office of the Secretary of Defense (with Curt Wu, Charles River Analytics, PI). **$100,000** ($29,971 Miami)

Honors and Awards

Distinguished Scholar (Junior Faculty), Miami University, 2010 (first ever for the School of Engineering)

Outstanding Research Award, School of Engineering and Applied Science, Miami University, 2010

Best Presentation Award for “Reasoning with Design Rationale”, Artificial Intelligence in Design ’00. (first conference presentation)

Fellowships. Robert S. Park Fellowship, Worcester Polytechnic University, 1998-1999. Carl and Inez Weidenmiller Fellowship, Worcester Polytechnic University, 1999-2000.

Publications

Journals

M. Lester, M. Guerrero, J. Burge, Using Evolutionary Algorithms to Select Text Features for Mining Design Rationale, Artificial Intelligence in Engineering Design, Analysis, and Manufacturing, 2020, 34(2), pp. 1-15

R. McCall, J. Burge, "Untangling Wicked Problems," Artificial Intelligence in Engineering Design, Analysis, and Manufacturing, 2016, 30(2)

J. Burge, P. Anderson, G. Gannod, M. Carter, M. Vouk, First Steps Toward Integrating Communication Instruction Throughout Computer Science and Software Engineering Curricula, Computers in Education Journal, April-June 2012

A. Tang, A. Aleti, J. Burge, H. van Vliet, “What makes software design effective”, Design Studies, Volume 31 (6), November 2010, 614-640

J. Burge, B. Brinkman, “Using Rationale to Assist Student Cognitive and Intellectual Development”, Human Technology: An Interdisciplinary Journal of Humans in ICT Environments, Volume 6 (1), May 2010, 106–128

J. Burge, Researching Under Uncertainty, Artificial Intelligence in Engineering Design, Analysis, and Manufacturing, 2008, 22 (4):311-324

J. Burge, D.C. Brown, Software Engineering Using RATionale, Journal of Systems and Software, 2008, 81(3): 395-413

Books, and Book Chapters

A. Tang, A. Aleti, J. Burge, H. van Vliet, What makes software design effective, Software Designers in Action: A Human-Centric Look at Design Work, M. Petrie, A. Van Der Hoek (eds). Chapman Hal Publishing. 2013

J. Burge, B. Brinkman, Using Rationale to Assist Student Cognitive and Intellectual Development, in Creativity and Rationale, J. Carroll (Ed.), July 2012.

J. Burge, J. Carroll, R. McCall, I. Mistrik, Rationale-Based Software Engineering, Research Monograph, Springer, 2008

J. Burge, D.C. Brown, Rationale-Based Support for Software Maintenance, in Rationale Management in Software Engineering, A. Dutoit, R. McCall, I. Mistrik, B. Paech (eds.), Springer Verlag/Computer Science Editorial, Spring 2006.

Refereed Conference and Workshop Proceedings

R. McCall, J. Burge, Contributions and Challenges of Pearl's Causal Networks to Causal Analysis in Design, 9th International Conference on Design, Computing, and Cognition, December 2020.

D. Kutas, A. Nair, P. Singh, E. Kan, J. Burge, A. van der Hoek, Linecept: Preliminary Design and Implementation of a Timeline-Based Design Coordination Tool, Thirteenth International Workshop on Cooperative and Human Aspects of Software Engineering, July 2020

M. Vierhauser, J. Cleland-Huang, J. Burge, P. Gruenbacher. The Interplay of Design and Runtime Traceability for Non-Functional Requirements, the International Workshop on Software and Systems Traceability, Montreal, Canada, 2019.

M. Lester, J. Burge, "Identifying Design Rationale Using Ant Colony Optimization", the International Conference on Design, Computing, and Cognition, Lake Cuomo, Italy, 2018, pp. 581-600

B. Rogers, C. Justice, T. Mathur, J. Burge, "Generalizability of Document Features for Learning Rationale", the International Conference on Design, Computing, and Cognition, Chicago IL, 2016, pp. 633-651.

J. Malloy, J. Burge, "SEURAT_Edu: A Tool to Assist and Assess Student Decision-Making in Design", SIGCSE 2016, pp. 669-674.

P. Anderson, S. Heckman, M. Vouk, D. Wright, M. Carter, J. Burge, G. Gannod, "CS/SE Instructors Can Improve Student Writing without Reducing Class Time Devoted to Technical Content: Experimental Results", Joint Conference on Software Engineering Education and Training, International Conference on Software Engineering, 2015, pp. 455-464.

J. Burge, "Insights into Teaching and Learning: Reflections on MOOC Experiences", SIGCSE 2015, pp. 600-603.

G. Gannod, J. Burge, K. Davis, M. Doyle, V. McIe, "Increasing Awareness of Computer Science in High School Girls", Frontiers in Education Conference, Barcelona Spain, 2014, pp. 1-6.

B. Rogers, Y. Qiao, J. Gung, T. Mathur, J. Burge, "Using text mining techniques to extract rationale from existing documentation", 6th International Conference on Design Computing and Cognition, 2014, pp. 457-474.

J. Burge, R. McCall, "Diagnosing Wicked Problems", 6th International Conference on Design Computing and Cognition, 2014, pp. 313-326.

J. Burge, M. Vouk, P. Anderson, D. Wright, G. Gannod, M. Carter, A. Howard, B. Schultz, "Developing CS/SE Students' Communication Abilities through a Program-Wide Framework", SIGCSE, 2014, pp. 579-584.

D. Binkley, D. Lawrie, E. Hill, J. Burge, I. Harris, R. Hebig, O. Keszöcze, K. Reed, J. Slankas. "Task Driven Software Summarization", International Conference on Software Maintenance, ERA, 2013, pp. 432-435

J. Burge, G. Gannod, M. Doyle, K. Davis, “Girls on the Go: A CS Summer Camp to Attract and Inspire Female High School Students”, SIGCSE, 2013, pp. 615-620.

J. Burge, G. Gannod, P. Anderson, K. Rosine, M. Vouk, M. Carter, Characterizing Communication Instruction in Computer Science and Engineering Programs: Methods and Applications, Frontiers in Education Conference, Seattle, WA, 2012, p. 1-6.

B. Rogers, J. Gung, Y. Qiao, J. Burge, “Exploring Techniques for Rationale Extraction from Existing Documents”, New Ideas and Emerging Results Track, International Conference on Software Engineering, June 2012, pp. 1313-1316

J. Burge, G. Gannod, H. Connor, “Using Rationale to Drive Product Line Architecture Configuration”, Workshop on the Sharing and Reusing of Architectural Knowledge (SHARK), Honolulu, HI, 2011

J. Burge, P. Anderson, G. Gannod, M. Carter, M. Vouk, “Integrating Communication Instruction Throughout Computer Science and Software Engineering Curricula”, American Society of Engineering Education, Vancouver, BC, 2011

M. Carter, G. Gannod, J. Burge, P. Anderson, M. Vouk, M. Hoffman, “Communication Genres: Integrating Communication into the Software Engineering Curriculum”, Conference on Software Engineering Education and Training (CSEE&T), Honolulu, HI, 2011, pp. 21-30.

W. Wang, J. Burge, “Using Rationale to Support Pattern-Based Architectural Design”, Workshop on Sharing and Reusing Architectural Knowledge (SHARK), Cape Town, South Africa, 2010

J. Burge, “Application and appreciation: Changing course structure to change student attitudes”, The Proceedings of the 22nd International Conference on Software Engineering Education and Training, Hyderabad India, 2009, pp. 45-52.

J. Burge, G. Gannod “Dimensions for Categorizing Capstone Projects”, The Proceedings of the 22nd International Conference on Software Engineering Education and Training, Hyderabad India, 2009, pp. 166-173.

G. Gannod, J. Burge, M. Helmick, “Using the Inverted Classroom to Teach Software Engineering", Proceedings of the International Conference on Software Engineering (ICSE), Leipzig, Germany, 10-18 May 2008, pp. 777-786

J. Burge, D.C. Brown, “SEURAT: Integrated Rationale Management,” Formal Research Demonstration, ICSE, Leipzig, Germany, 2008, pp. 835-838

J. Burge, J. Kiper, “Capturing Decisions and Rationale from Collaborative Design”, Proceedings of Design, Computing, and Cognition, Atlanta, Georgia, July 2008, pp. 221-239.

J. Burge, “Exploiting Multiplicity to Teach Reliability and Maintainability in a Capstone Project”, Conference on Software Engineering Education and Training, 2007, pp. 29-36

G. Gannod, S. Urban, J. Burge, “Issues in the Design of Flexible and Dynamic Service Oriented Systems” International Workshop on Systems Development in SOA Environments, Minneapolis MN, 2007.

M. Helmick, J. Kiper, J. Burge, V. Cross, G. Gannod, “Incorporating Wikis into software repository mining,” in Proceedings of Wiki4SE- Wikis for Software Engineering Workshop, Montreal (Canada), 2007

J. Burge, D.C. Brown, “Supporting Requirements Traceability with Rationale”, Workshop on Grand Challenges in Traceability, Kentucky, 2006.

J. Burge, V. Cross, J. Kiper, P. Maynard-Zhang, S. Cornford, "Enhanced design checking involving constraints, collaboration, and assumptions", Design, Computing, and Cognition, Gero J (ed), Kluwer Academic Publishers, Netherlands, 2006, pp. 655-674

J. Burge, D. Troy, “Rising to the Challenge: Using Business-Oriented Case Studies in Software Engineering Education", in Proceedings of the 19th Conference on Software Engineering Education and Training, Turtle Bay, Hawaii, 2006, pp. 43-50

J. Burge, D.C. Brown, "An Integrated Approach for Software Design Checking Using Rationale", Design Computing and Cognition '04, J. Gero (Ed.), Kluwer Academic Publishers, Netherlands, 2004, pp. 557-576.

P. Gonsalves, J. Burge, J., "Software Toolkit for Optimizing Mission Plans (STOMP)," the AIAA 1st Intelligent Systems Technical Conf., Chicago, IL, 2004.

J. Burge, D.C. Brown, "Rationale Support for Maintenance of Large Scale Systems", Workshop on Evolution of Large-Scale Industrial Software Applications (ELISA), ICSM '03, Amsterdam, NL, 2003.

P. Gonsalves, P., J. Burge, and K. Harper, "Architecture for Genetic Algorithm-Based Threat Assessment," 6th International Conference on Information Fusion, Cairns, Australia, 2003.

J. Burge, D.C. Brown, “Reasoning with Design Rationale”, Artificial Intelligence in Design ‘00, J. Gero (ed.), Kluwer Academic Publishers, Netherlands, 2000, pp. 611-629.

Other Publications

J. Burge, “Documenting and Detecting Errors in Decision-Making using Rationale,” First Workshop on Applications of Human Error Research to Improve Software Engineering, co-located with ICSE, 2015.

J. Daughtry, J. Burge, J. Carroll, C. Potts, “Creativity and Rationale in Software Design” SIGSOFT Softw. Eng. Notes 34(1) (Jan. 2009), 27-29.

J. Burge, “Using Rationale to Assist Student Cognitive and Intellectual Development,” Workshop on Creativity and Rationale in Software Design, Invited Workshop, NSF Creative IT Program, 2008

J. Burge, "Anatomy of an Experiment: Difficulties in Evaluating Rationale-based Systems", Workshop on Design Rationale: Problems and Progress, Design, Computing, and Cognition, 2006, Eindhoven, Netherlands

B. Rosenberg, J. Burge, and P. Gonsalves, "Applying Evolutionary Multi-objective Optimization to Mission Planning for Time-sensitive Targets" Genetic and Evolutionary Computation Conference (GECCO) 2005 - Late Breaking Papers. Washington, DC, 2005.

J. Burge, P. Gonsalves, and C. Call, “Integrated Belief Network-based Situation Awareness Model Development and Adaptation,” in Proceedings of SPIE, AeroSense, Orlando, FL, 2005.

P. Gonsalves, J. Burge, “Multi-objective Optimization to Support Rapid Air Operations Mission Planning,” in Proceedings of SPIE, AeroSense, Orlando, FL, 2005.

P. Gonsalves, J. Burge, and B. Popp, "Decision Support System for Theatre Missile Defense," National Symposium on Sensor and Data Fusion, San Diego, CA, 2003.

P. Gonsalves, J. Burge, and B. Popp, "Decision Support System for Theatre Missile Defense," Proceedings of SPIE, Volume 5096, AeroSense, Orlando, FL, 2003.

J. Burge, D. C. Brown, "Integrating Design Rationale with a Process Model", Workshop on Design Process Modeling, Artificial Intelligence in Design '02, Cambridge, UK, 2002.

J. Burge, "Design Rationale for Software Maintenance", Doctoral Symposium Abstract: Automated Software Engineering, Coronado CA, 2001.

H. Ruda, J. Burge, P. Aykroyd, J. Sander, D. Okon, and G. Zacharias, "Distributed Course of Action Planning using Genetic Algorithms, XML, and JMS," Proceedings of SPIE, Volume 4396, AeroSense, Orlando, FL, 2001.

H. Ruda, J. Burge, P. Aykroyd, J. Sander, D. Okon, and G. Zacharias, "FOX and CADET: Successful Integration of Command and Control Components" Proceedings of the Federated Laboratories Capstone Symposium, College Park, MD, 2001.

J. Burge, D. C. Brown, " NFRs: Fact or Fiction", Computer Science Technical Report, Worcester Polytechnic University, WPI-CS-TR-02-01, 2002.

J. Burge, D. C. Brown, "Discovering a Research Agenda for Using Design Rationale in Software Maintenance", Computer Science Technical Report, Worcester Polytechnic University, WPI-CS-TR-02-03, 2002.

J. Burge, D. C. Brown, "Design Rationale Types and Tools", Computer Science Technical Report, Worcester Polytechnic University, WPI-CS-TR-98-28, 1998.

J. Burge, "Knowledge Elicitation Tool Classification", Computer Science Technical Report, Worcester Polytechnic Institute, WPI-CS-TR-98-29

Service

Workshops/Sessions/Panels Conducted

- Conducted a "Birds of a Feather" session "Teaching and Learning Under Pressure: Intensive (Accelerated, Block) Computer Science Courses" with Bo Brinkman, Miami University, SIGCSE 2017
- Co-chair of the 2016 Software Engineering Education and Training track of the International Conference on Software Engineering (with Dewayne Perry, UT Austin)
- Participated in a conference Panel: Armando Fox (Moderator), Janet Burge, Dan Grossman, Gerald Roth, Joe Warren, "SPOCS: What, Why, and How", at SIGCSE, 2015
- Conducted a "Birds of a Feather" session "Blended CS Courses using Massive, Open, Online Courses (and other Online Resources)" with Douglas H Fisher, Vanderbilt University; Mary Lou Maher, University of North Carolina; Jerry Roth, Vanderbilt University, SIGCSE 2015
- Organizing Committee, Workshop on the Twin Peaks of Requirements and Architecture, held at the International Conference on Requirements Engineering, Chicago, IL, 2012, International Conference on Software Engineering, San Francisco, CA, 2013, International Conference on Requirements Engineering, Brazil, 2013, International Conference on Software Engineering, Hyderabad India, 2014.
- Organizing Committee, KY-TRIWIC Tri-State Regional Celebration of Women in Computing, 2012, 2014.
- Instructor in the Pan American Software Quality Institute, an NSF funded workshop in Costa Rica; presented a session on Design Rationale, 2013

- Conducted a "Birds of a Feather" session "Integrating Communication Skills into the Computer Science Curriculum" at SIGCSE 2013 with Mark Hoffman (Quinnipiac University), Gerald Gannod and Mladen Vouk (NCSU)
- Served on the Panel of Experts at the Workshop on User Evaluation for Software Engineering Researchers, ICSE 2012
- Conducted a workshop: Burge, J., Anderson, P., Gannod G., Helping Students Become Better Communicators, Workshop at SIGCSE, 2012
- Conducted a panel: Anderson, P., Burge, J., Carter, M., Gustafsson, M., Research on Total Integration of Writing and Subject-Matter Instruction in the Disciplines: An Interim Report from National and International Perspectives, Panel presented at Writing Research Across Borders, 2011
- Organized four NSF Funded workshops on Integrating Communication Skills Learning Outcomes into the CS and SE Curriculum, two at NC State, two at Miami. All with Paul Anderson, Gerald Gannod, Michael Carter, and Mladen Vouk
- Conducted a conference panel: Gerald C. Gannod, Janet E. Burge, Paul V. Anderson, and Andrew Begel, Panel entitled "Is Integration of Communication and Technical Instruction Across the SE Curriculum a Viable Strategy for Improving the Real-World Communication Abilities of Software Engineering Graduates?" at 24th IEEE-CS Conference on Software Engineering Education and Training (CSEE&T 2011), 22-24 May, 2011, pp. 525-529
- Conducted a "Birds of a Feather" session "Distributing Communication Skills Across the Computer Science Curriculum" at SIGCSE 2010 with Gerald Gannod and Mladen Vouk (NCSU)
- Organized the NSF Funded Software Communication Chautauqua at Miami University w/Paul Anderson, Charles Wallace, Marika Seigel
- Conducted a workshop on Improving Communication Skills of SE Students Through Curricular Innovation at CSEE&T 2009 with Paul Anderson
- Conducted a "Birds of a Feather" session "Human Communication in Computer Science & Software Engineering Education" at SIGCSE 2009 with Clifton Kussmaul and Paul Anderson
- Conducted a workshop on Software Engineering Communication at CSEE&T 2008 with Charles Wallace of MTU

Editing/Reviewing/Panels

- Guest editor (with R. Bracewell), Special Issue on Design Rationale in AI for Engineering Design, Analysis, and Manufacturing Journal, 2008.
- Program Committees: International Conference on Software Engineering (Teaching Track, Student Research Competition), International Conference on Design, Computing, and Cognition, European Conference on Software Architecture, Workshop on the Sharing and Reusing of Architectural Knowledge, International Conference on Research into Design, International Workshop on Traceability in Emerging Forms of Software Engineering, ACM Symposium on Applied Computing Human Computer Interaction Track, AAAI Symposium on AI and Sustainable Design, International Conference on Quality Software
- Journal Paper Reviews: IEEE Transactions on Software Engineering, Journal of AI in Engineering Design and Manufacturing, Journal of Systems and Software, Concurrent Engineering, Journal of Engineering Design, Journal of Computing and Information Science in Engineering (JCISE), Research in Engineering Design, IEEE Software, Design Studies, IEEE Transactions on Education, Computers and Education, Information and Software Technology, Journal of Software: Evolution and Profess

- Conference Paper Reviews: Artificial Intelligence in Design, Frontiers in Education, SIGCHI, Grace Hopper Celebration of Women in Computing, ICSE Teaching Track, Design Computing and Cognition, European Conference on Software Architecture
- Chapter Reviewer, Rationale Management in Software Engineering
- Served on five NSF review panels
- Reviewed for the Natural Sciences and Engineering Research Council of Canada

Selected Talks

- Fearless Friday, Colorado College Mathematics and Computer Science Department: "Wicked Problems" (2021)
- Subject matter expert talk: "Design Rationale: Past, Present, and Future," at the invitation-only workshop NDIST: New Directions in Software Technology, Rationale Capture for Software Design and Evolution: or Towards a Programmers' Apprentice (again), St. Johns, US Virgin Islands, December 2014
- Invited Talks: University of Colorado, Boulder (2013), Virginia Tech (2010), Wesleyan (2010), Michigan Technological University (2012, 2008) (Visiting Scholar Program), University of Hyderabad, India (2009), University of Kentucky (2009), University of Memphis (2010)
- Invited Talks cancelled due to COVID-19: University of California, Irvine (2020)

Outreach

- Conducted "Girls on the Go: The Mobile Computing College Experience," summer camp for HS girls. With G. Gannod, M. Doyle, and K. Davis, 2012, 2013.
- Conducted "Careers in Computing" – outreach to female HS students (1 year) – dinners plus a robotics workshop (with Dr. Jade Morton), 2012
- Conducted "Abilities First Fulfillment Project" – outreach to female HS students (2 years)
- Organized sessions for the STEM Exploration Academy, Miami University (2 years)

Academic Service

- Colorado College Departmental Committees: Capstone Committee, 2016-17, Website Committee 2017-2018
- Colorado College Search Committees: 2016-2017 (Math TT, CS Visitor), 2017-2018 (Statistics TT, CS Visitor), 2018-2019 (CS TT), 2020-2021 (Math Senior Hire, CS TT).
- College Committees: Academic Events Committee (2017-2018, 2018-2019 (Chair), 2020-2021, Indigenous Studies Minor working group, K12 Community Engagement Group (2021-2022)
- Colorado College representative to the National Center for Women in Technology (NCWIT)
- External Reviewer for University of Redlands Mathematics and Computer Science programs (2021)
- Member of the Tennessee Technological University Advisory Board, 2017-present
- Wesleyan: Departmental Committees (Library, Website, Colloquium Coordinator, Search)
- Member of the Advisory Board for NSF IUSE Project "Agile communicators: Preparing students for communication-intensive software development through inquiry, critique and reflection," Michigan Technological University, Charles Wallace PI
- Former Member of the Quinnipiac University Software Engineering Advisory Board (replaced when I left Connecticut): 2015-2016

- Member of the Michigan Technological University Presidential Council of Alumna, inducted 2012
- University Committee member: Academic Achievement Awards, Search Committee for the Director of the Howe Center for Writing Excellence (2012)
- Supervised Miami University Undergraduate Summer Scholar, 2011 (these are awarded based on proposals submitted)
- Department Committee member, Miami University: Undergraduate Committee (3 years), Graduate Committee (2 years), Search Committees (2011, 2013)
- Ad hoc Committee on Software Engineering (2007), Miami University
- Student Outcomes Assessment Steering Committee, WPI, Graduate Student Representative, 2000-2003.

Courses Taught

- Computational Thinking (CC)
- Web Programming (CC)
- Software Design (CC)
- Computer Science I (CC, Wesleyan)
- Data Science (CC)
- Team Software Project (CC)
- Requirements Analysis (Miami)
- Machine Learning (Graduate level) (Miami)
- Software Engineering for Human Computer Interaction (Miami)
- Object Oriented Programming (Miami)
- Senior Design Project (Capstone) (Miami)
- Graduate Seminar in Design Rationale (Miami)
- Software Engineering (several variants at Sophomore, Junior, and Senior Level) (Miami, Wesleyan, WPI)
- Design of Software Systems, Graduate Level (WPI)
- Introduction to Machine Organization and Assembly Language (WPI)

Graduate Students Supervised

- Miriam Lester (5/17), Feature Selection Using Ant Colony Optimization and Genetic Algorithms
- Ben Rogers (1/14), Tanmay Mathur (1/15) Rationale Extraction from Existing Documents
- John Malloy (5/14), Rationale, Creativity, and Critical Thinking Project

Undergraduate Research Students Supervised

- Emily Evans, Liz Seero, Gwen Hardwick (Summer 2021)
- Zizhen Fan (Summer 2019)
- Miguel Guerrero (Summer 2018)
- Connor Justice, Yiming Liu, Timothy Kim, Kiera FitzGerald, Alex Drexler, Aaron Rosen (Wesleyan)
- James Gung, Yechen Qiao, Tom Barber, Kara Rosine, John Martin (Miami)