Joanne M. Atlee, P.Eng.

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1   Personal Data

Citizenship: US and Canadian dual citizen

Education Record

- Ph.D. in Computer Science – September 1992
  University of Maryland
  Dissertation title: *Automated Analysis of Software Requirements*
  Advisor: John Gannon

- M.S. in Computer Science – May 1988
  University of Maryland
  Masters paper: *Synchronization and Deadlock in Polylithic Systems*
  Advisor: James Purtilo

- B.S. in Computer Science and Physics – May 1985
  College of William and Mary
  magna cum laude

Employment and Appointment Record

- University of Waterloo, Department of Computer Science, 1992-present
  - Director of Women in Computer Science, 2015 – 2018
  - Professor, 2012 – present
  - Director of Software Engineering, 2000 – 2005
  - Associate Professor, 1997 – 2012
  - Assistant Professor, 1992 – 1997

- University of British Columbia, Department of Computer Science,
  Visiting Professor (sabbatical), October 2019 – July 2020

- University of California, Santa Barbara, Department of Computer Science,
  Research Visitor (sabbatical) October 2012 – June 2013

- SRI International, International Fellow, (sabbatical) January 1999 – December 1999

- Bell-Northern Research, Software Engineering Laboratory,
  Visiting Research Scientist, September 1992 – December 1992

- University of Maryland, Department of Computer Science,
  Graduate Research/Teaching Assistant, 1985–1992

- RMS Technologies, Inc., Data Systems Technology Division, NASA Goddard, Systems Analyst (part-time), 1990–1991

- IBM, Information Programming Services-Atlanta, Quality Analyst (summer intern), 1983–1985

2 Research and Scholarship

Areas of Interest
- Software modelling languages, semantics of languages, configurable semantics
- Automated analysis and verification: model checking, theorem proving, consistency checking
- Modular software development: composition semantics, feature interactions, interoperability
- Software-engineering education

Books Edited

Joanne M. Atlee and Stefania Gnesi (Eds.), *Proceedings 6th Workshop on Formal Methods and Analysis in SPL Engineering (FMSPLE 2015)*, London, UK, 11 April 2015. EPTCS 182, 2015

Michal Antkiewicz, Joanne M. Atlee, Juergen Dingel, S. Ramesh (Eds.), *Proceedings of the International Workshop on Modelling in Automotive Software Engineering (MASE 2015)*, Ottawa, Canada. September 27, 2015.

Joanne M. Atlee and Paola Inverardi (Eds.), *Proceedings of the 31st ACM/IEEE International Conference on Software Engineering (ICSE'09)*, IEEE 2009.

Joanne M. Atlee (Ed.), *Proceedings of the 13th IEEE International Conference Requirements Engineering (RE'05)*, IEEE 2005.

Books and Book Contributions

Sandy Beidu and Joanne M. Atlee, "Detecting Feature Interactions in FORML Models." In *From Software Engineering to Formal Methods and Tools, and Back,* LNCS 11865, Springer, 2019: 220-235.

Shari Lawrence Pfleeger and Joanne M. Atlee, *Software Engineering: Theory and Practice*, Fourth edition, Prentice Hall, 2009.

Betty H. C. Cheng and Joanne M. Atlee, "Current and Future Research Directions in Requirements Engineering." In *Design Requirements Engineering: A Ten-Year Perspective*, Lecture Notes in Business Information Processing, Vol. 14, Springer, 2009, pp. 11-43.

Joanne M. Atlee, Richard J. LeBlanc, Jr., Timothy C. Lethbridge, Ann Sobel, J. Barrie Thompson, "Reflections on Software Engineering 2004, the ACM/IEEE-CS Guidelines for Undergraduate Programs in Software Engineering". In *Software Engineering Education in the Modern Age*, LNCS 4309, Springer-Verlag Berlin Heidelberg, 2006, pp. 11-27.

Shari Lawrence Pfleeger and Joanne M. Atlee, *Software Engineering: Theory and Practice*, Third edition, Prentice Hall, 2005.

Joanne M. Atlee, Introduction to "Tabular Representations in Relational Documents" In *Software Fundamentals: Collected Papers by David L. Parnas*, 2001.

Joanne M. Atlee, Marsha Chechik, and John Gannon, "Using Model Checking to Analyze Requirements and Designs." In *Advances in Computers*, Vol. 43, M. Zelkowitz (Ed), Academic Press, 1996, pp. 141-178.

Articles in Refereed Journals

P. Ann Zimmer and Joanne M. Atlee, "Ordering Features by Category", *Journal of Systems and Software*, Elsevier, Vol. 85, No. 8 (August 2012), pp. 1782–1800.

Adam Prout, Joanne M. Atlee, Nancy A. Day, and Pourya Shaker, "Code Generation for a Family of Executable Modelling Notations," *Software and Systems Modeling*, Springer Verlag, Vol. 11, No. 2 (May 2012), pp. 251–272.

Shahram Esmaeilsabzali, Nancy A. Day, Joanne M. Atlee, and Jianwei Niu, "Deconstructing the semantics of big-step modelling languages", *Requirements Engineering Journal*, Vol. 15, No. 2, (June 2010), pp. 235–265.

Jianwei Niu, Joanne M. Atlee, and Nancy A. Day, "Template Semantics for Model-Based Notations", *IEEE Transactions on Software Engineering*, Vol. 29, No. 10 (October 2003), pp. 866-882.

Saheem Siddiqi and Joanne M. Atlee, "A Hybrid Model for Specifying Features and Detecting Interactions", *Computer Networks*, Vol. 32, No. 4 (April 2000), Elsevier Science, pp. 471-485.

Joanne M. Atlee and John Gannon, "State-Based Model Checking of Event-Driven Systems Requirements," *IEEE Transactions on Software Engineering*, Vol. 19, No. 1 (January 1993), pp. 24-40.

James M. Purtilo and Joanne M. Atlee, "Module Reuse by Interface Adaptation," *Software - Practice and Experience*, Vol. 21, No. 6 (June 1991), pp. 539-556.

Articles in High-Impact Conferences

Parsa Pourali, Joanne M. Atlee. "A Focus+Context Approach to Alleviate Cognitive Challenges of Editing and Debugging UML Models", In *Proceedings of ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS'19)*, September 2019, pp. 183-193.

Parsa Pourali, Joanne M. Atlee. "UCAnDoModels: A Context-based Model Editor for Editing and Debugging UML Class and State-Machine Diagrams", in *Proceedings of ACM/IEEE International Conference on Model Driven Engineering Languages and Systems - Demo Track (MODELS'19)*, September 2019, pp. 779-783.

Bryan Muscedere, Robert Hackman, Davood Anbarnam, Joanne Atlee, Ian Davis and Michael Godfrey. "Detecting Feature-Interaction Symptoms in Automotive Software Using Lightweight Analysis," in *Proceedings of the IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER'19)*, February 2019, pp. 175-185.

Parsa Pourali, Joanne M. Atlee. "An Empirical Investigation to Understand the Difficulties and Challenges of Software Modellers When Using Modelling Tools", in *Proceedings of ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS'18)*, October 2018, pp. 224-234.

Rafael Olaechea, Joanne M. Atlee, Axel Legay, Uli Fahrenberg. "Trace Checking for Dynamic Software Product Lines," in *Proceedings of the Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS'18)* (co-located with ICSE2018), May 2018, pp. 69-75.

Mohammad Hadi Zibaeenejad, Chi Zhang, Joanne M. Atlee. "Continuous variable-specific resolutions of feature interactions?. In *Proceedings of the Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESE/FSE'17)*, September 2017, pp. 408-418.

Zhaoyi Luo, Joanne M. Atlee. "BSML-mbeddr: Integrating Semantically Configurable State-Machine Models in a C Programming Environment," in *Proceedings of International Conference on Software Language Engineering (SLE'16)*, November 2016, pp. 105-117.

Rafael Olaechea, Uli Fahrenberg, Joanne M. Atlee, Axel Legay. "Long-Term Average Cost in Featured Transition Systems," in *Proceedings of the International Software Product Line Conference (SPLC'16)*, September 2016, pp. 109-118.

Shoham Ben David, Baruch Sterin, Joanne M. Atlee, and Sandy Beidu. "Symbolic Model Checking of Product-Line Requirements Using SAT-Based Methods," in *Proceedings of the ACM/IEEE 37th International Conference on Software Engineering (ICSE 2015)*, Florence, Italy, May 2015, pp. 189-199.

Cecylia Bocovich and Joanne M. Atlee, "Variable-Specific Resolutions for Feature Interactions," in *Proceedings of the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE'14)*, November 2014, pp. 553-563.

Torsten Berger, Divya Nair, Ralf Rublack, Joanne M. Atlee, Krzysztof Czarnecki, and Andrzej Wasowski. "Three Cases of Feature-Based Variability Modeling in Industry," in *Proceedings of the ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS'14)*, LNCS 8767, October 2014, pp 302-319.

Jianmei Guo, Edward Zulkoski, Rafael Olaechea, Derek Rayside, Krzysztof Czarnecki, Sven Apel, Joanne M. Atlee, "Scaling Exact Multi-Objective Combinatorial Optimization by Parallelization", in *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE'14)*, September 2014, pp. 409-420.

Pourya Shaker and Joanne M. Atlee, "Behaviour Interactions Among Product-Line Features", in *Proceedings of the International Software Product Line Conference (SPLC'14)* (short paper), September 2014, pp. 242-246.

David Dietrich and Joanne M. Atlee, "A Mode-Based Pattern for Feature Requirements, and a Generic Feature Interface," in *Proceedings of the IEEE International Requirements Engineering Conference (RE'13)*, July 2013, pp. 82–91 .

Pourya Shaker, Joanne M. Atlee, and Shige Wang, "A Feature-Oriented Requirements Modelling Language", in *Proceedings of International Requirements Engineering Conference (RE'12)*, September 2012, pp. 151–160.

Shahram Esmaeilsabzali, Bernd Fischer, and Joanne M. Atlee, "Monitoring Aspects for the Customization of Automatically Generated Code for Big-Step Models," in *Proceedings of the International Conference on Generative Programming and Component Engineering (GPCE'11)*, October 2011, pp. 117–126.

Shahram Esmaeilsabzali, Nancy A. Day, and Joanne M. Atlee, "A Common Framework for Synchronization in Requirements Modelling Languages", in *Proceedings of the ACM/IEEE Model Driven Engineering Languages and Systems (MODELS'10)*, LNCS 6395, October 2010, pp. 198-212.

Ali Taleghani and Joanne M Atlee, "Search-Carrying Code'," in *Proceedings of the IEEE/ACM international Conference on Automated Software Engineering (ASE'10)*, September 2010, pp. 367-376.

Ali Taleghani and Joanne M. Atlee, "State-Space Coverage Estimation," in *Proceedings of the IEEE/ACM international Conference on Automated Software Engineering (ASE'09)*, November 2009,. pp. 459-467.

Shahram Esmaeilsabzali, Nancy A. Day, Joanne M. Atlee, and Jianwei Niu, "Semantic Criteria for Choosing a Language for Big-Step Models," in *Proceedings of the IEEE International Requirements Engineering Conference (RE'09)*, September 2009, pp. 181–190.

Adam Prout, Joanne M. Atlee, Nancy A. Day, and Pourya Shakar, "Semantically Configurable Code Generation", in *Proceedings of the ACM/IEEE Model Driven Engineering Languages and Systems (MODELS'08)*. October 2008, pp. 705–720. *ACM SIGSOFT Distinguished Paper Award.* (An extended version of this paper appeared in *Software and Systems Modeling.*)

Ali Taleghani and Joanne M. Atlee, "Semantics Variations among UML StateMachines", in *Proceedings of the ACM/IEEE 9th International Conference on Model Driven Engineering Languages and Systems (MODELS'06)*, October 2006, pp. 245-259.

P. Ann Zimmer and Joanne M. Atlee, "Categorizing and Prioritizing Telephony Features", in *Eighth International Conference on Feature Interactions in Telecommunications and Software Systems (ICFI'05)*, 2005, pp 327-333.

Yun Lu, Joanne Atlee, Nancy Day, and Jianwei Niu, "Mapping Template Semantics to SMV", in *Proceedings of the IEEE International Conference on Automated Software Engineering (ASE'04)* (short paper), September 2004, pp. 320-325.

Jianwei Niu, Joanne M. Atlee, and Nancy A. Day, "Understanding and Comparing Model-Based Specification Notations", in *Proceedings of the IEEE International Requirements Engineering Conference (RE'03)*, September 2003, pp. 188-199.

Jianwei Niu, Joanne M. Atlee, and Nancy A. Day, "Composable Semantics for Model-Based Notations", in *Proceeding of the ACM SIGSOFT International Symposium on the Foundations of Software Engineering(FSE'02)*, November 2002, pp. 149-158. (An extended version of this paper appeared in *IEEE Transactions on Software Engineering.*)

Jonathan D. Hay and Joanne M. Atlee, "Composing Features and Resolving Interactions," in *Proceeding of the ACM SIGSOFT International Symposium on the Foundations of Software Engineering(FSE'00)*, November 2000, pp. 110-119.

George Yanbing Guo, Joanne M. Atlee, and Rick Kazman, "A Software Architecture Reconstruction Method", in *Proceedings of the 1st Working IFIP Conference on Software Architecture (WICSA'99)*, February 1999 pp. 225-243.

Pansy Au and Joanne M. Atlee, "Evaluation of a State-Based Model of Feature Interactions," in *Feature Interactions in Telecommunication Networks IV (FI'97)*, P. Dini, R. Boutaba, and L. Logrippo (Ed), IOS Press, 1997, pp. 153-167.

Tirumale Sreemani and Joanne M. Atlee, "Feasibility of Model Checking Software Requirements: A Case Study," in *Proceedings of the 11th Annual Conference on Computer Assurance (COMPASS'96)*, June 1996, pp. 77-88.

Joanne M. Atlee, Paul P. Dasiewicz, Rick Kazman, Rudolph E. Seviora, and Ajit Singh, "A Joint CS/E&CE Undergraduate Option in Software Engineering", in *Proceedings of the 9th Conference on Software Engineering Education (CSEE'96)*, April 1996, pp. 16-28.

Joanne M. Atlee and Michael A. Buckley, "A Logic-Model Semantics for SCR Software Requirements," in *Proceedings of the ACM International Symposium on Software Testing and Analysis (ISSTA'96)*, January 1996, pp. 280-292.

Keith P. Pomakis and Joanne M. Atlee, "Reachability Analysis of Feature Interactions: A Progress Report," in *Proceedings of the ACM International Symposium on Software Testing and Analysis (ISSTA'96)*, Workshop Session, January 1996, pp. 216-223.

Kenneth H. Braithwaite and Joanne M. Atlee, "Towards Automated Detection of Feature Interactions," in *Proceedings of the Second International Workshop on Feature Interactions in Telecommunications Software Systems (FI'94)*, May 1994, pp. 36-59.

Joanne M. Atlee and John Gannon, "Analyzing Timing Requirements," in *Proceedings of the ACM International Symposium on Software Testing and Analysis (ISSTA'93)*, June 1993, pp. 117-127.

Joanne M. Atlee and John Gannon, "State-Based Model Checking of Event-Driven Systems Requirements," in *Proceedings of ACM SIGSOFT Conference on Software for Critical Systems*, December 1991, pp. 16-28. (This is a preliminary version of the paper that appeared in *IEEE Transactions on Software Engineering*.)

James M. Purtilo and Joanne M. Atlee, "Improving Module Reuse by Interface Adaptation," Proceedings of *International Conference on Computer Languages*, March 1990, pp. 208-217. (An extended version of this paper appeared in *Software - Practice and Experience*.)

Other Publications

Cecylia Bocovich, Joanne M. Atlee, "Feature-Oriented Modelling in BIP: A Case Study," in *Proceedings of the 3rd International Workshop on Interplay of Model-Driven and Component-Based Software Engineering (ModComp'16)* (co-located with MODELS 2016), October 2016, pp. 6-11.

Joanne M. Atlee, Sandy Beidu, Uli Fahrenberg, Axel Legay, "Merging Features in Featured Transition Systems", in *Proceedings of the 12th Workshop on Model Driven Engineering, Verification, and Validation (MoDeVVa'15)*, (MODELS Workshop), September 2015, pp. 38-42.

Sandy Beidu, Joanne M. Atlee, Pourya Shaker. "Incremental and Commutative Composition of State-Machine Models of Features," in *Sixth International Workshop on Models in Software Engineering (MiSE'15)*, (ICSE Workshop), May 2015, pp. 13-18.

Joanne M. Atlee, Uli Fahrenberg, Axel Legay. "Measuring Behaviour Interactions between Product-Line Features", in *Third FME Workshop on Formal Methods in Software Engineering (FormaliSE'15)*, (ICSE Workshop), May 2015, pp. 20-25.

David Dietrich and Joanne M. Atlee, "A Pattern for Structuring the Behavioural Requirements of Features of an Embedded System," in *Third International Workshop on Requirements Patterns (RePa'13)*, (RE workshop) July 2013, pp. 1-7.

Joanne M. Atlee, Sandy Beidu, Nancy A. Day, Fathiyeh Faghih and Pourya Shaker, "Recommendations for Improving the Usability of Formal Methods for Product Lines," in *FME Workshop on Formal Methods in Software Engineering (FormaliSE'13)*, (ICSE Workshop), May 2013, pp. 43-49.

Thorsten Berger, Ralf Rublack, Divya Nair, Joanne M. Atlee, Martin Becker, Krzysztof Czarnecki, and Andrzej Wasowski. "A Survey of Variability Modeling in Industrial Practice." In *Proceedings of the Seventh International Workshop on Variability Modelling of Software-intensive Systems (VaMoS '13)*, January 2013, pp. 7:1-8.

David Dietrich, Pourya Shaker, Joanne M. Atlee, Derek Rayside, and Jan Gorzny. "Feature Interaction Analysis of the Feature-Oriented Requirements-Modelling Language Using Alloy", in *Proceedings of the 9th MODELS Workshop on Model-Driven Engineering, Verification and Validation (MoDeVVa'12)*, October 2012, pp. 17-22.

Betty H. C. Cheng and Joanne M. Atlee, "Research Directions in Requirements Engineering", in *ACM/IEEE International Conference on Software Engineering (ICSE'07)* (Invited paper in the special proceedings on the Future of Software Engineering), May 2007, pp. 285-303.

Joanne M. Atlee, Robert France, Geri Georg, Ana Moreira, Bernhard Rumpe, and Steffen Zschaler, "Modeling in Software Engineering", in *Companion Proceedings of ACM/IEEE International Conference on Software Engineering (ICSE'07)*, May 2007, pp. 113-114.

Joanne M. Atlee, Richard J. LeBlanc, Jr., Timothy C. Lethbridge, Ann Sobel, J. Barrie Thompson, "Software Engineering 2004, the ACM/IEEE-CS Guidelines for Undergraduate Programs in Software Engineering", In *Proceedings of the 27th International Conference on Software Engineering (ICSE'05), Education Track* (invited paper), IEEE Computer Press, 2005, pp. 623-624.

ACM/IEEE-CS, "Software Engineering 2004: Curriculum Guidelines for Undergraduate Degree Programs in Software Engineering", August 2004; http://sites.computer.org/ccse/SE2004Volume.pdf.

Yinghua Jia and Joanne M. Atlee, "Run-Time Management of Feature Interactions", *Sixth ICSE Workshop on Component-Based Software Engineering (CBSE'03)*, May 2003.

Annie I. Anton and Joanne M. Atlee, "What Do You Mean I've Been Practicing Without a License?: Certification & Licensing of Requirements Engineering Professionals", abstract of panel discussion at the *International Conference on Requirements Engineering*, June 2000, pg. 151.

Joanne M. Atlee and Andrew Malton, "The Non-simultaneity of SCR Events," Proceedings of the *Fifth International SCR Workshop*, February 1996.

Joanne M. Atlee and John McDermid, "Integrating Requirements Analysis and Safety Analysis," abstract of panel discussion at the *Second IEEE International Symposium on Requirements Engineering*, March 1995, pg. 158.

Joanne M. Atlee, "Native Model-Checking of SCR Requirements," Proceedings of the *Fourth International SCR Workshop*, November 1994.

Joanne M. Atlee and John Gannon, "Model Checking Timing Requirements," Computer Science Technical Report CS93-25, September 1993, revised August 1996, (32 pages).

Joanne M. Atlee, "Specifying and Verifying Real-Time Properties in SCR Requirements," Proceedings of the *Third International SCR Workshop*, September 1993.

Joanne M. Atlee, "Why Analyze SCR-style Requirements?" Proceedings of the *Second International SCR Workshop*, November 1992.

Software

- **Nimble** a compiler that translates high-level parameter transformation descriptions into C modules.
- **QuickCheck** a suite of tools that facilitate model checking SCR software requirements specifications:
  - **tgraph** a tool that translates SCR behavioral requirements for a real-time system into a compact reachability graph, suitable for model checking.
  - **gensmv** a tool that translates SCR behavioral requirements into SMV input, for analysis with the Symbolic Model Verifier.
- **FID tools** a suite of tools that compose specifications of telephony basic services and features, and search the resultant reachability graph for feature interactions.

- **CIRA** on off-line reachability analyzer that reads a collection of feature specifications and reports their interactions and resolutions, according to a specific resolution strategy.

- **Metro Express** a parameterized model compiler that accepts a specification and a set of parameter values expressing the specification's semantics, and produces an SMV model suitable for model checking.

- **CMMD** a semantically configurable code-generator generator that accepts a set of parameter values that instantiate the template semantics for a modelling notation, and produces a code generator that generates a Java implementation for a model written in that notation.

- **PL model checking in IC3** an extension to the IC3 symbolic model checker to support model checking of a product-line model of composed (optional) features. (https://bitbucket.org/sterin/features_build)

- **BSML-mbeddr** an extension to mbeddr (http://mbeddr.com) to allow a program to include state-machine variables, whose execution semantics are semantically configurable. (https://github.com/z9luo/BSML-mbeddr)

- **Rex** a Clang-based source-code fact extractor that extracts static facts about a C/C++ program that runs on Robot Operating System (ROS)

Keynotes

- The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2019), "Living with Feature Interactions", August 2019.

- Modularity'15, "Feature Modularity", March 19 2015.

- International Women?s Day Dinner, University of Waterloo, "Gender Diversity in Computing," March 6, 2015.

- International Workshop on Feature-Oriented Software Development (FOSD) (co-located with ASE), "Can Features have Interfaces?", September 14, 2014.

- IEEE International Requirements Engineering Conference, "Feature Interactions: the Good, the Bad, and the Ugly", September 2, 2011.

- Dagstuhl Seminar 11021 on Feature-Oriented Software Development, "Feature Interactions: the Good, the Bad, and the Ugly", January 11, 2011.

Invited Talks

- IFIP Workshop Group 2.9 on Software Requirements Engineering, "Flexible Lightweight Scalable Software Analysis," February 10, 2020.

- Google Waterloo, "The BRAID Initiative: A Wide-Scale Assessment of Promising Practices to Increase Diversity in Computing?, March 8, 2018.

- IFIP Workshop Group 2.9 on Software Requirements Engineering, "App Development and Requirements Engineering for Kids," February 23, 2018.

- University of Waterloo Research Talk; "Detecting and Resolving Software Errors?, January 27, 2017.

- Canadian Federation of University Women, "Gender Equity in Mathematics, " Nov 22, 2016.

- IFIP Working Group 2.9 on Software Requirements Engineering, "Default Resolutions of Feature Interactions," Feb 22, 2016.

- IBM Continuous Engineering for the Internet of Things (ICE IoT), "Model-Based Software Engineering?, November 4, 2015.

- University of Waterloo, "Feature Interactions: the Good, the Bad, and the Ugly", December 9, 2013.

- Université Catholique de Louvain, "Feature Interactions: the Good, the Bad, and the Ugly", October 4, 2013.

- Technische Universität Dresden, "Feature Interactions: the Good, the Bad, and the Ugly", July 18, 2013.

- University of California, Irvine, "Feature Interactions: the Good, the Bad, and the Ugly", February 1, 2013.

- University of California, Santa Barbara, "Feature Interactions: the Good, the Bad, and the Ugly", December 10, 2012.

- IFIP Working Group 2.9, "Feature-Oriented Requirements", February 17, 2012.

- Michigan State University, "Feature-Oriented Requirements: the Good, the Bad, and the Ugly", October 28, 2011.

- IEEE International Requirements Engineering Conference, keynote speaker, "Feature-Oriented Requirements: the Good, the Bad, and the Ugly", September 2, 2011.

- Dagstuhl Seminar on Feature-Oriented Software Development, keynote speaker, "Feature Interactions: the Good, the Bad, and the Ugly", January 13, 2011.

- NSF/Microsoft Research Workshop on Usable Verification, "Easing Formal Verification through Usable Modelling Languages", November 15, 2010.

- NSF workshop on Studying Professional Software Design, "Studying Software Developers and their use of Abstraction", February 9, 2010

- IFIP Working Group 2.9, "High Priority Requirements Engineering Problems", February 29, 2008

- Accenture, "Semantically Configurable Modelling Notations and Tools", April 10, 2008

- Modelling in Software Engineering (ICSE workshop), "High Priority Problems in Abstraction and Modelling", May 11, 2008

- IFIP Working Group 2.9 on Requirements Engineering, "Research Directions in Requirements Engineering", 23 February, 2007

- University of British Columbia, "Semantically Configurable Modelling Notations and Tools", December 1, 2006

- Formal Semantics for UML Workshop (invited speaker), "Template Semantics: Parameterized Semantics Descriptions", October 3, 2006

- Dagstuhl, "Configurable Modelling Notations and Tools", August 9, 2006

- University of California, Davis, "Configurable Model-Driven Development", March 1, 2006

- IFIP Working Group 2.9 on Requirements Engineering, "Configurable Model-Driven Development", February 20, 2006

- NASA Ames, "Configurable Model-Driven Development", February 8, 2006

- ICSE Education Track, "Software Engineering 2004: ACM/IEEE-CS Guidelines for Undergraduate Programs in Software Engineering", May 2005

- Universitat Paderborn, "Template Semantics for Model-Based Notations", April 2003

- University of Calgary, "Composing Features and Resolving Interactions", November 2002

- IFIP Working Group 2.9 on Requirements Engineering, "Run-Time Conflict Resolution for Personal Features", February 2002

- KW Software Quality Assurance Conference, "Software Engineering Profession and Discipline", February 2002

- Mitel Networks Internal Presentation, "Resolving Interactions at Run-Time", December 2001

- Mitel Networks Conference (MICON), "Resolving Interaction at Run-Time", August 2001

- Canadian Conference on Computer Engineering Education, "Implementing a Joint Software Engineering Program", May 2001

- Parnas Symposium, International Conference on Software Engineering (ICSE), "Parnas Tables: A Practical Formalism", May 2001

- CITO Tech Talk Workshop, "Features, Policies, and Their Interactions", April 2001

- Women in Math seminar (UW), "Practical Formalisms for Modelling Software", March 2001
- IFIP Working Group 2.9 on Requirements Engineering, "Specifying and Analyzing Conflict Resolutions", February 2001
- Mitel Corporation, "Composing Features and Resolving Interactions", August 2000
- University of Toronto, "Composing Features and Resolving Interactions", April 2000
- IFIP Working Group 2.9 Workshop on Requirements Engineering, "Detecting and Resolving Feature Interactions", February 2000
- University of California, Santa Barbara, "Model Checking Software Requirements for Reactive Systems", November 1999
- Schloss Dagstuhl Workshop on Software Requirements, "Practical Formalisms", June 1999
- SRI International, "Practical Formalisms for Software Requirements", June 1999
- ObjectTime Workshop, "Using Abstraction to Ease Analysis", January 1998
- Tables Workshop, McMaster University, "Cheating (I Mean Using Abstraction) to Ease Analysis", December 1996
- University of Toronto, "A Joint CS/E&CE Undergraduate Option in Software Engineering", July 1996
- McMaster University, "Native Model-Checking of SCR Requirements," July 1995
- AT&T Bell Laboratories, Naperville IL, "Towards Automated Detection of Feature Interactions," May 1995
- George Mason University, "Automated Analysis of Software Requirements," December 1994
- McMaster University, "Analyzing Software Requirements," November 1993
- Queen's University, "Automated Analysis of Software Requirements," February 1993
- Carleton University, "Automated Analysis of Software Requirements," November 1992
- AT&T Bell Laboratories, Naperville IL, "Automated Analysis of Software Requirements", August 1992

Grants

- Ontario Centres of Excellence, Voucher for Innovation and Productivity II, "Feature Interaction, Visualisation and Root Cause Analysis", $75K/yr, 2018-2020 (with Mike Godfrey and 1 other).
- Natural Sciences and Engineering Research Council of Canada, Collaborative Research and Development Grant, "Detection and Impact Analyses of Feature Interactions", $163K/yr, 2018-2021 (PI with two others).
- General Motors of Canada, "Feature Analysis and Interaction Analysis", $319K/3yr, 2017-2020 (PI with two others).
- Natural Sciences and Engineering Research Council of Canada, CREATE program, "NSERC CREATE in Product-Line Engineering for Cyber-Physical Systems", $2,754,200, 2015-2019 (with Krzysztof Carnecki and 8 others).
- Natural Sciences and Engineering Research Council of Canada, Strategic Network Grant, "The Upgradable Car: Safely Extensible Automotive Systems and Software", $528,060, 2015-2017 (with Krzysztof Carnecki and 6 others).
- Natural Sciences and Engineering Research Council of Canada, Individual Discovery Grant, "Modelling and Analysis of Feature-Oriented Software ", $34,000/yr, 2012-2019.
- General Motors of Canada, "Feature-Oriented and Variability Modelling and Analysis", $36,128, 2011-2012.
- Ontario Research Fund, "Model-Based Software Engineering", $4.6 million, 2012-2017 (co-PI with Tom Maibaum, and 10 others).
- Automotive Partnership Canada (APC), "Network on Engineering Complex Software Intensive Systems for Automotive Applications", $16.6 million, 2011-2016 (co-PI with Tom Maibaum, and 18 others).

- General Motors of Canada, "Feature-Oriented Requirements Modelling and Analysis", $31, 241, 2010.

- Ontario Research Fund, "Model-Integrated Software Service Engineering", $9.3 million, 2008-2012 (with Krzysztof Carnecki and 10 others).

- Ontario Centres of Excellence (with IBM), "Centre of Excellence for Research in Adaptive Systems", $875,698, 2007-2010 (with A. Aboulnaga, K. Czarnecki, K. Salem, J. Wong).

- Natural Sciences and Engineering Research Council of Canada, Individual Discovery Grant, "Semantically Configurable Software Modelling Notations and Tools', $32,000/yr, 2007-2012.

- Communications and Information Technology Ontario, "Managing Feature Interactions among Distributed Services", $110,000/yr, 2003-2005 (with N. Day, R. Trefler).

- AT&T Canada, "Managing Feature Interactions among Distributed Services", $20,000/yr, 2003-2005 (with N. Day, R. Trefler).

- Natural Sciences and Engineering Research Council of Canada, Individual Research Grant, "Composition and Conflict Resolution", $31,000/yr, 2002-2007.

- Communications and Information Technology Ontario, "Specifying, Analysing, and Coordinating Distributed User-defined Features", $100,000/yr, 2000-2002 (with L. Logrippo).

- Natural Sciences and Engineering Research Council of Canada, Collaborative Research and Development GrantIndividual Research Grant, "Specifying, Analysing, and Coordinating Distributed User-defined Features", $30,000/yr, 2000-2002 ($15,000/yr of the above funds are from MITEL Corp.)

- Natural Sciences and Engineering Research Council of Canada, Individual Research Grant, "Modelling and Analysis of Software", $28,000/yr, 1998-2002.

- Communications and Information Technology Ontario, "Run-time Detection and Resolution of Feature Interactions", $40,000/yr, 1998-2000 (2/3 of the above funds are from MITEL Corp.)

- Communications and Information Technology Ontario, "Software Design Technology", $125,000/yr, 1998-2000 (with T.C.N. Graham, D. Blostein, J. Cordy, R. Holt, D. Lamb).

- Natural Sciences and Engineering Research Council of Canada, Individual Research Grant, "Automated Analysis of Software Requirements", $20,000/yr, 1994-1998.

- Natural Sciences and Engineering Research Council of Canada, Collaborative Research and Development Grant, "Data Management in Embedded Real-Time Software Systems,"$37,000/yr, 1995-1997 (with G. Weddell and Q. Yang).

- Natural Sciences and Engineering Research Council of Canada, New Faculty Support Grant, "Detection and Analysis of Feature Interactions", $32,000/yr, 1992-1995 (plus matching funds from Bell-Northern Research).

- Natural Sciences and Engineering Research Council of Canada, Equipment Grant, "Creation of Software Engineering Laboratory," $56,119, 1995 (with F.N. Kazman, D.D. Cowan, Q. Yang, G. Weddell, R. Seviora).

- National Science Foundation, travel funds for CRA Workshop on Academic Careers for Women, $1,000, 1993.

3 Teaching Activities

Courses Taught

Semester	Course	Students
Winter 1993	CS 354 Software Systems	180
Fall 1993	CS 746B System Specification, Verification, and Synthesis	13
Winter 1994	CS 354 Software Systems	180
Fall 1994	CS 246 Software Abstraction and Specification	90
Winter 1995	CS 246 Software Abstraction and Specification	90
Winter 1995	CS 499 Independent Research	2
Fall 1995	CS 445 Software Requirements and Specification	14
Fall 1995	CS 746B Automated Verification	21
Spring 1996	CS 134 Principles of Computer Science	200
Winter 1997	CS 445 Software Requirements and Specification	5
Winter 1997	CS 246 Software Abstraction and Specification	80
Fall 1997	CS 445 Software Requirements and Specification	50
Fall 1997	CS 134 Principles of Computer Science	120
Spring 1998	CS 246 Software Abstraction and Specification	180
Winter 2000	CS 445 Software Requirements and Specification	47
Spring 2000	CS 746 Automated Analysis of Specifications	8
Fall 2001	SE 101 Introduction to Methods of Software Engineering	102
Fall 2002	SE 101 Introduction to Methods of Software Engineering	105
Fall 2003	SE 101 Introduction to Methods of Software Engineering	107
Fall 2004	SE 101 Introduction to Methods of Software Engineering	107
Fall 2006	SE 463 Software Requirements and Specification	84
Fall 2006	CS445 Software Requirements and Specification	24
Spring 2007	CS 246 Software Abstraction and Specification	180
Fall 2007	SE 463 Software Requirements and Specification	59
Fall 2007	CS 445 / ECE 451 Software Requirements and Specification	26
Winter 2008	CS 445 / ECE 451 Software Requirements and Specification	20
Winter 2009	CS 745 / ECE 725 Computer Aided Verification	15
Spring 2009	CS 246 Software Abstraction and Specification	83
Spring 2009	CS 246 Software Abstraction and Specification	85
Winter 2010	CS 445 / ECE 451 Software Requirements and Specification	50
Winter 2010	CS 846 Model-Based Software Engineering	15
Spring 2010	CS 246 Software Abstraction and Specification	97
Winter 2011	CS 445 / ECE 451 Software Requirements and Specification	30
Spring 2011	CS 246 Software Abstraction and Specification	98
Spring 2011	CS 846 Model-Based Software Engineering	14
Winter 2012	CS 445 / ECE 451 Software Requirements and Specification	55
Winter 2012	CS 846 Model-Based Software Engineering	20
Spring 2012	CS 247 Software Engineering Principles	115
Winter 2014	CS 445 / ECE 451 Software Requirements and Specification	55
Spring 2014	CS 247 Software Engineering Principles	126
Winter 2015	PD 10 Professional Responsibility in Computing	132
Spring 2015	CS 247 Software Engineering Principles	74
Spring 2015	CS 247 Software Engineering Principles	78
Spring 2015	PD 10 Professional Responsibility in Computing	130
Fall 2015	PD 10 Professional Responsibility in Computing	141
Winter 2016	PD 10 Professional Responsibility in Computing	206
Spring 2016	SE 463 Software Requirements and Specification	54
Spring 2016	SE 463 Software Requirements and Specification	55

Spring 2016	PD 10 Professional Responsibility in Computing	266
Winter 2017	PD 10 Professional Responsibility in Computing	202
Spring 2017	SE 463 Software Requirements and Specification	74
Spring 2017	SE 463 Software Requirements and Specification	78
Spring 2017	PD 10 Professional Responsibility in Computing	395
Fall 2017	PD 10 Professional Responsibility in Computing	328
Winter 2018	PD 10 Professional Responsibility in Computing	267
Spring 2018	SE 463 Software Requirements and Specification	74
Spring 2018	SE 463 Software Requirements and Specification	78
Spring 2018	PD 10 Professional Responsibility in Computing	348
Fall 2018	PD 10 Professional Responsibility in Computing	385
Winter 2019	PD 10 Professional Responsibility in Computing	305
Spring 2019	PD 10 Professional Responsibility in Computing	302

Industry Courses

Case Tools for Requirements and Design, Institute for Computer Research, Sept. 10-11, 1996.
Case Tools for Requirements and Design, Institute for Computer Research, March 25-26, 1998.

Ph.D. Supervision

- Rafael Toledo, 9/18-present, Lightweight Modelling and Analysis of Source Code
- Rafael Olaechea, 9/13-present, Analysis of Quality Properties of Software Product Line Models
- Sandy Beidu, 5/10-present, Analysis of Feature-Oriented Requirements Models
- Parsa Pourali, Ph.D. 1/15-1/20, *A User-Centric Approach to Improve the Quality of UML-like Modelling Tools and Reduce the Efforts of Modelling*
- Pouria Shaker, Ph.D., 1/07-11/13, *A Feature-Oriented Modelling Language and a Feature-Interaction Taxonomy for Product-Line Requirements*
- Ali Taleghani, Ph.D., 9/04-9/10, *Using Software Model Checking for Software Certification*
- P. Ann Meade, Ph.D., 5/01-8/07, *Prioritizing Features Through Categorization: An Approach to Resolving Feature Interactions*
- Jianwei Niu, Ph.D., 9/98-5/05, *Template Semantics: A Parameterized Approach to Semantics-Based Model Compilation*
- Dave Mason, Ph.D., 1/00-7/02, *Probabilistic Program Analysis for Software Component Reliability*

M.Math Supervision

- Rob Hackman, 9/15-present, Compiler for Generating Model Fact Extractors
- Bryan Muscedere, 9/15-5/18, *Detecting Feature-Interaction Hotspots in Automotive Software using Relational Algebra*
- Chi Zhang, 9/14-5/16, *Refining, Implementing, and Evaluating the Extended Continuous Variable-Specific Resolutions of Feature Interactions*
- Zhaoyi Luo, 5/14-9/15, *Integrating Semantically Configurable State-machine Models in a C Programming Environment*
- Xiaoni Lai, 5/14-5/15, *FormlSlicer: A Model Slicing Tool for Feature-rich State-machine Models*
- Cecylia Bocovich, 9/12-5/14, *A Feature Interaction Resolution Scheme Based on Controlled Phenomena*
- David Dietrich, 9/11-8/13, *A Mode-Based Pattern for Feature Requirements, and a Generic Feature Interface*
- Divya Nair, Ph.D., 9/07-5/13, *Variability-Modelling Practices in Industrial Software Product Lines: A Qualitative Study*
- Tejas Kajarekar, 9/09-8/11, *Fully Automated Translation of BoxTalk to Promela*

- Ana Krulec, M.Math, 1/09-12/10, *Case Study of Feature-Oriented Requirements Modelling, Applied to an Online Trading System*
- Yuan Peng, M.Math, 1/03-5/07, *Mapping BoxTalk to Promela Model*
- Adam Prout, M.Math, 9/04-12/06, *Parameterized Code Generation from Template Semantics*
- Irwin Kwan, M.Math, 9/03-12/06, *On the Maintenance Costs of Formal Software Requirements Specifications Written in the Software Cost Reduction and the in the Real-Time Unified Modeling Language Notations*
- Yinghua (Silvia) Jia, M.Math, 5/01-8/03, *Run-time Management for Feature Interactions*
- Meyer Tanuan, M.Math, 9/97-8/01, *Automated Analysis of Unified Modelling Language (UML) Specifications*
- Colleen Ritchie, M.Math, 9/98-9/00, *Mapping Feature Specifications to Use Case Maps – The Feature Interaction Problem*
- James Keast, M.Math, 9/97-8/99, *A Run-Time Architecture for Detecting Feature Interactions*
- Saheem Siddiqi, M.Math, 9/97-4/99, *Automated Feature Interaction Analysis Incorporating the AIN Architecture*
- Mark Adams, M.Math, 9/97-12/98, *Feasibility of Using Automated Verification on a Specification for a Flight Guidance System*
- Jianhan Guo, M.Math, 1/97-9/98, *Verifying Functional Properties of Specifications Using PVS*
- Tayfun Umman, M.Math, 9/96-9/98, *Heuristics for Object Modeling Technique (OMT) Specifications*
- Nancy Moussa, M.Math, 9/97-9/98, *Impact of Use Case Maps on Higher Level Design*
- Y. George Guo, M.Math, 9/96-5/98, *A Software Architecture Reconstruction Method*
- Y. Maggie Cai, M.Math, 9/95-8/97, *Assertion Analysis of Feature Interactions*
- Pansy Au, M.Math, 9/95-5/97, *An Evaluation of a State-Based Model of Feature Interactions*
- Keith Pomakis, M.Math, 9/93-4/96, *Reachability Analysis of Feature Interactions in Service-Oriented Software Systems*
- Tirumale Sreemani, M.Math, 5/94-3/96, *Feasibility of Model Checking Software Requirements: A Case Study*

Post Docs / Research Engineers
- Ian Davis, Research Engineer, 1/17-5-18, topic: Fact Extraction from C/C++ Source Code
- Hadi Zibaeenejad, Post-Doc, 1/15-5/16, topic: Architectural Resolutions of Feature Interactions
- Shohan Ben-David, Post-Doc, 9/12-3/14, topic: SAT-based Product-Line Model Checking
- Pourya Shaker, Post-Doc, 1/14-7/14, topic: Bisimulation Analysis to Detect Feature Interactions
- Michal Antkiewicz, Research Engineer, 9/11-9/15, topic: Feature-Oriented Modelling of Automotive Software
- Borzoo Bonakdarpour, Research Professor, 5/11-8/14, Runtime Verifications

Other Student Supervision
- Jonathan D. Hay, Ph.D. candidate, 9/98-5/01, topic: generic strategies for resolving feature interactions
- Kenneth Braithwaite, Ph.D. candidate, 1/94-8/95, topic: automated detection of feature interactions.
- David Fung, undergraduate research assistant, 1/04-present, topic: MagicDraw front-end for Metro project
- Eunsuk Kang, undergraduate research assistant, 5/03-present, topic: naive translator from template semantics to SMV
- Alex Bussmann, undergraduate research assistant, 5/01-9.01, topic: reachability analyzer for detecting and resolving constraint violations
- Rick Sahadeo, undergraduate research assistant, 9/00-present, topic: reachability analyzer for implementing and evaluating resolution strategies
- Michael Buckley, undergraduate research assistant, 5/94-12/94, topic: symbolic representations of reachability graphs.

4 Professional Societies

- Registered member of the Association of Professional Engineers of Ontario (2007-present)
- IFIP Working Group 2.9 on Software Requirements Engineering: member (2001-present), vice chair (2005-2010)
- ACM, SIGSOFT (1988-present).
- IEEE Computer Society (1993-present)

5 Service

External Service

- National Science Foundation, Committee of Visitors that examined the merit-review process, program management, and resulting portfolio of three divisions within the NSF Computer and Information Science and Engineering (CISE) Directorate, 2019.
- Swiss National Science Foundation, Marcel Benoist Prize Evaluation Panel, 2019.
- ACM SIGSOFT Executive Committee, Member at-Large, 2009-2012.
- National Science Foundation, Committee of Visitors that reviewed the Software and Hardware Foundations Program, 2009.
- ACM Education Council, Member, 2007-2009.
- ACM SIGSOFT Representative on the Computing Curricula/Software Engineering (CCSE) steering committee, October 2002-May 2004.
- CEQB Software Engineering Syllabus committee (ad hoc), March 2003-Jun 2006.

Editorial Activities

- Editorial Board, *IEEE Transactions on Software Engineering* (IEEE Computer Press), 2006-2010, 2013-2018
- Editorial Board, *Requirements Engineering Journal* (Springer), 2006-present.
- Editorial Board, *Software and Systems Modeling* (Springer), 2008-present.
- Guest Editor, *IEEE Transactions on Software Engineering*, Special Issue on the Best Papers from ICSE'09 (January 2012)
- Guest Editor, *Requirements Engineering Journal*, Special Issue on the Best Research Papers from RE'05 (June 2006)
- Guest Editor, *IEEE Software*, Special Issue on the Best Practice Papers from RE'05 (May/June 2006)

Conference Organization

- ACM/IEEE International Conference on Software Engineering, General Chair, 2019
- ACM SIGSOFT International Symposium on Foundations of Software Engineering), Tutorials Chair, 2014
- Dagstuhl Seminar 14281 on "Feature Interactions: The Next Generation", 2014
- ACM/IEEE International Conference on Software Engineering, Local Arrangements Co-Chair, New Faculty Symposium Co-Chair, 2013
- ACM/IEEE International Conference on Software Engineering, Doctoral Symposium Co-Chair, 2011
- ACM/IEEE International Conference on Software Engineering, Program Co-Chair (2009), Steering Committee member (2006-2012)
- Modeling in Software Engineering (ICSE Workshop), workshop organizer, 2007, 2008, 2012-2014.
- ACM/IEEE International Conference on Software Engineering, Career Development activities (New Faculty Symposium, Doctoral Symposium, Poster Session), 2006
- IEEE International Symposium on Requirements Engineering, Program Chair (2005), Steering Committee member (2003-2007).
- ACM/IEEE International Conference on Software Engineering, Co-Chair of Workshops, 2003

- IEEE International Symposium on Requirements Engineering, Finance Chair, 2001
- IEEE International Conference on Requirements Engineering, Panel Organizer, 2000
- Celebration of Canadian Women in the Mathematical, Statistical, and Computer Sciences, Program and General Chair, 1998
- IEEE International Symposium on Requirements Engineering, Panel Organizer, 1995

Conference Committees
- ACM/IEEE International Conference on Software Engineering, 1997 (Doctoral Consortium), 1999 (PC), 2001 (PC), 2007 (PC), 2008 (PC),2010 (PC), 2012 (PC), 2014 (Program Board), 2017 (Program Board), 2017 (Doctoral Symposium), 2018 (Program Board)
- ACM/SIGSOFT International Symposium on the Foundations of Software Engineering, 2002 (PC), 2004 (PC), 2008 (PC), 2012 (PC), 2015 (PC).
- IEEE International Symposium on Requirements Engineering, 1995 (PC), 1997 (PC), 1999 (PC), 2001 (PC), 2002 (PC), 2003 (PC), 2004 (PC), 2006 (PC), 2007 (PC), 2011 (program board member)
- ACM SIGSOFT International Symposium on Software Testing and Analysis, 1998 (PC), 2000 (PC), 2002 (PC), 2006 (PC), 2007 (PC)
- International Conference on Modularity, 2016 (PC)
- ACM SIGSOFT Workshop on Formal Methods in Software Practice, 1998 (PC)
- IEEE International Conference on Requirements Engineering, 1998 (PC), 2000 (PC)
- IEEE Workshop on Feature Interactions in Telecommunication Networks and Distributed Systems, 1997 (PC), 1998 (PC), 2003 (PC).
- Software Technology and Engineering Practice, 1997 (PC).
- International Workshop on Computer-Aided Software Engineering, 1995 (PC).

Organizational Review Activities
- External Reviewer, Management Review of the School of Computer Science, University of Guelph, 2016
- External Evaluator of CS and SE Undergraduate Programs, Concordia University, 2014
- Member of an NSF Committee of Visitors for the Computing and Communication Foundations Division in the Directorate for Computer and Information Science and Engineering, 2009

University Service
- 2018-2019, Faculty Math Strategic Plan Implementation Workshop Group, Undergraduate Admissions and Recruitment
- 2017-2018, UW White Paper Advisory Group, Empowering People subgroup
- 2015-2018, School of Computer Science Executive Committee
- 2015-2017, HeForShe Faculty Advocate for the Math Faculty
- 2007-2010, 2011-2012, School Advisory Committee on Appointments
- 2006-2008, 2009-2010, 2013-2015 School Promotion and Tenure Committee
- 2008-2009, 2010-2011, 2013-present Women in Computer Science Committee, chair 1/14-12/18.
- 2003-2004 Electrical and Computer Engineering Chair Search Committee
- 2000-2005 Faculty of Engineering Undergraduate Studies Committee
- 2000-2005 Faculty of Engineering Operations Committee
- 2000-2005 Faculty of Math Undergraduate Affairs Committee
- 2000-present Software Engineering Program Board, member 2000-2005, 2006-2012, 2013-present
- 2001-2005 CS External Relations Committee
- 1999-2005,2006-2009 SE Curriculum Committee

- 1995-1999, Women in Mathematics Committee, member 7/95-present, chair 7/96-5/99.
- 1993-1999, CS Comprehensive Exams Committee, member 9/93-9/97, chair 9/97-5/99.
- 1995-1997, CS Colloquium Series, chair.
- 1994-present, Software Engineering Option curriculum committee
- 1994, CS Department Chair Search Committee.
- 1990-1992, Student Honor Council, University of Maryland, founding member 1990, presiding officer 1991-1992.