

# Jonathan I. Maletic

Professor



Department of Computer Science  
Kent State University  
P.O. Box 5190  
Kent, Ohio, USA 44242-0001

Office: 330.672.9039  
Cell: 330.221.3371  
jmaletic@kent.edu  
[www.cs.kent.edu/~jmaletic/](http://www.cs.kent.edu/~jmaletic/)

## Education

Ph.D.	Computer Science	Wayne State University	1995
M.S.	Computer Science	Wayne State University	1989
B.S.	Computer Science, Mathematics Minor	The University of Michigan-Flint	1985

## Academic Experience

- *Professor*. Department of Computer Science, Kent State University, Kent, Ohio. 8/10 - present.
- *Interim Chair*. Department of Computer Science, Kent State University, Kent, Ohio. 7/1/10 - 11/15/10.
- *Associate Professor*. Department of Computer Science, Kent State University, Kent, Ohio. 8/04 - 8/10.
- *Assistant Professor*. Department of Computer Science, Kent State University, Kent, Ohio. 7/01 - 8/04.
- *Assistant Professor*. Division of Computer Science, Department of Mathematical Sciences, The University of Memphis, Memphis, Tennessee. 9/97 - 5/02.
- *Lecturer*. Department of Computer Science, Wayne State University, Detroit, Michigan. Non-tenure track teaching position. 9/95 - 8/97.
- *NASA Graduate Student Researchers Program Fellowship*. Department of Computer Science, Wayne State University, Detroit, Michigan. 93/94 renewed for 94/95.
- *Graduate Teaching Assistantship*. Department of Computer Science, Wayne State University, Detroit, Michigan. 92/93, 89/90, and 88/89.
- *Graduate Research Assistantship*. Department of Computer Science, Wayne State University, Detroit, Michigan. Funded by Ford Motor Company, Institute for Manufacturing Research, and IBM. 90/91 and 87/88.
- *Adjunct Lecturer*. Computer Science Department, The University of Michigan-Flint, Flint, Michigan. 86/87.

## Industry Experience

- *Principle*. srcML LLC. Kent Ohio. Providing software and consulting solutions for the exploration, analysis, and manipulation of multi-language large-scale software. 2014 - present. Clients:
  - GraphSQL, Kent Ohio, 7/2016 to present.
  - Goanna Software, Eveleigh, Australia, 12/2014.
- *Independent Software Consultant*. Arizona Department of Transportation (ADOT), Phoenix, Arizona. Litigation Technical Support. Advised issues of software verification and validation, process models, and software system performance simulation. 5/97 - 8/97.
- *Software Consultant*. Computer Software Inc. consulting for Ford Motor Company, Dearborn, Michigan. Development of Client/Server GUI application using C, TCP/IP, Visual Basic, and Oracle, Development of web application using cgi-bin and Pearl. 2/95 - 11/95.
- *Associate Research Scientist*. Systems and Research Center, Honeywell Inc., Minneapolis, Minnesota. Development of a production quality temporal reasoning system, TMM using LISP/CLOS, UNIX. Assisted in proposals submitted to DARPA, DoD, and FAA. 9/91 - 8/92.
- *Programmer*. Eagle Data Products. Holly, Michigan. Installation, and modification of an Inventory/Accounting package. Developed communications program between PC and central phone system processor. 4/86 - 9/86.

## Professional Affiliations

- Association for Computing Machinery (ACM), Senior Member (2006) since 1984
- Institute of Electrical and Electronics Engineers - Computer Society (IEEE-CS) since 1985

## Research Statement

**Interests:** Software engineering, evolution, & maintenance; software traceability; program comprehension & analysis; reverse engineering; source code exploration, manipulation, and transformation; software visualization

The research program focuses on the construction of methods, tools, and environments to assist in the evolution of large-scale software systems. Current investigations include:

- *Source Code Exploration, Analysis, and Manipulation.* XML is used to augment source code with syntactic information from the parse tree as a means to add explicit structure to program source code [97, 109]. This underlying representation, srcML (Source Code Markup Language), supports lightweight fact extraction, source code transformation [95], and source code difference analysis. The *srcml* translator works for C/C++ and Java. It is very robust and efficient, running faster than compilers on the same input [38, 39, 42, 48, 49, 51]. The translator is used by a large number of researchers and a commercial version is in use to support software porting [94, 95], the analysis of programs for parallelizability [103], and slicing [102]. srcML also forms the basis for an efficient syntactic differencing method [49, 65, 84].
- *Software Visualization and Comprehension.* A number of efforts to develop visualization tools to support understanding large software systems are being conducted [37, 99, 106]. Eye tracking equipment is being used to assess the comprehensibility of design documents (UML class diagrams) in a non-obtrusive manner [74, 78, 91, 93, 100, 104]. This work augments the work on software visualization and supports a means to measure the quality of UML class diagram layout techniques [54, 83, 85, 88]. Also, focus+context methods for visualizing very large UML class diagrams using onion graph notations have been investigated [55, 72]. Extending the Seesoft metaphor to 3D and investigating how this can be used to assist developers is being explored [32, 34, 41, 44, 99].
- *Text Analysis in Software Engineering.* The research focuses on investigating the combined use of semantic and structural information of programs to support the comprehension tasks involved in the maintenance and reengineering of software systems. Here, semantic refers to the domain specific issues (both problem and development domains) of a software system. The other dimension, structural, refers to issues such as the actual syntactic structure of the program along with the control and data flow that it represents. Advanced information retrieval (IR) methods, such as latent semantic indexing (LSI), are used to define a semantic similarity measure between software components [27, 33, 36, 40, 50, 56, 110].
- *Reverse Engineering Design Information.* An automated approach to reverse engineer UML class diagrams from C++ has been developed [57, 67, 76] which accurately identifies association, dependency, and generalization relationships along with the multiplicity on relationships. Method and Class stereotypes are automatically reverse engineered [64, 86, 94, 98] and the source code is re-documented to support program understanding and recovery of class stereotype information. An automated approach to the identification of C++ concepts in function and class templates is being investigated. Concepts are part of a new language feature appearing in the next standard for C++ (i.e., C++0x). Concept identification is the enumeration of constraints on the sets of types over which templates can be instantiated [76, 81, 87, 90, 107]. The approach analyzes template source code and computes a set of viable concept instances describing the implied data abstraction of the template parameters. The approach can be used to assist in reengineering existing generic libraries to C++0x. Additionally, it has the potential to assist in the validation of concept hierarchies and interface definition in generic libraries.
- *Software Traceability.* A XML based hypertext model is being developed to support complex link structure, versioning of individual links, and a traceability query language [46, 58]. The hypertext model supports complex linking structures such as multi links and typed links. Fine-grained versioning of individual links is supported by external link-bases [69]. A traceability query language (TQL) is being developed on top of XPath to support sophisticated querying about such things as requirements traceability, safety critical issues, and impact analysis [82, 96]. This work aims to support long-term evolution of large software systems. Additional work focuses on the automatic identification of traceability links [40, 73, 75, 84, 95]. And the development of the TraceLab infrastructure [96, 101, 105].
- *Mining Software Repositories.* Data mining techniques are being utilized to analyze multiple versions of a system's history to uncover latent trends and evolutionary couplings. The techniques have been applied to the problems of defect identification, software localization, and traceability link recovery [52, 59, 62, 68, 70, 71, 73, 75, 77, 79, 80, 89, 106, 108]. Additionally the first in depth survey of the field was conducted in 2007 [66].

## Funding and Support

### Summary of Annual External Funding (awards to KSU)

Year	Research		Education/Scholarships	
	Approx. Amount	Award(s)	Approx. Amount	Award(s)
2017	\$155K	NSF-CRI	\$120K	NSF-SSTEM
2016	\$155K	NSF-CRI	\$120K	NSF-SSTEM
2015	\$155K	NSF-CRI	\$120K	NSF-SSTEM
2014	\$150K	NSF-CRI	\$120K	NSF-SSTEM
2013	\$160K	NSF-MRI, NSF-CRI & ABB	\$120K	NSF-SSTEM
2012	\$190K	NSF-MRI & ABB	\$10K	COF
2011	\$238K	NSF-CPA, NSF-MRI & ABB	\$110K	NSF-SSTEM, COF
2010	\$270K	NSF-CPA, NSF-MRI & ABB	\$110K	NSF-SSTEM, COF
2009	\$115K	NSF-CPA & ABB	\$110K	NSF-SSTEM, COF
2008	\$70K	NSF-CPA & ABB	\$100K	NSF-SSTEM
<b>Yearly Average</b>	<b>~\$170</b>		<b>~\$100K</b>	

### Proposals Submitted & Pending

Title	Investigator(s)	Agency/Source	Amount	Period
SHF: Small: Supporting Adaptive Maintenance on Large-Scale Software <i>Submitted Nov. 16, 2016</i>	Maletic, J.I. (PI)	National Science Foundation CCF: Core Programs 15-573	\$500K	3 years
CI-New: Collaborative: An Infrastructure that Combines Eye Tracking into Integrated Development Environments to Study Software Development and Program Comprehension <i>Pre-proposal submitted Nov. 4, 2016, Encouraged to Submit Nov. 19, 2016 Submitted full proposal Jan. 18 2017</i>	Maletic, J.I. (PI), Sharif, B. (YSU)	National Science Foundation CRI 15-590	\$520K	3 years

**Funding Awards: Active**

<b>Title</b>	<b>Investigator(s)</b>	<b>Agency/Source</b>	<b>Amount</b>	<b>Period</b>
CI-ADDO-EN: Collaborative Research: Enhancing the srcML Infrastructure: A Multi-Language Exploration, Analysis, and Manipulation Framework <a href="http://www.srcML.org">www.srcML.org</a>	Maletic, J.I. (PI), Collard, M.L. (Akron)	National Science Foundation CNS 13-05292/05217  <b>\$800,000 Project Total</b>	\$600,877	7/1/2013- 6/30/2017 <b>CURRENT</b>
Research Experience for Undergraduates	J. Maletic (PI)	National Science Foundation Supplement to CNS 13-05292	\$5,000	5/6/2016- 6/30/2017 <b>CURRENT</b>
Research Experience for Undergraduates	J. Maletic (PI)	National Science Foundation Supplement to CNS 13-05292	\$8,000	5/6/2015- 6/30/2017 <b>CURRENT</b>
Research Experience for Undergraduates	J. Maletic (PI)	National Science Foundation Supplement to CNS 13-05292	\$5,000	5/6/2014- 6/30/2017 <b>CURRENT</b>
Kent State University Scholarships for Broadening Participation in Sciences <a href="http://www.stem-scholarships.kent.edu/">www.stem-scholarships.kent.edu/</a>	Maletic, J.I. (PI), Ortiz, J., Selinger, R., Portman, J., Case, A.	National Science Foundation S-STEM DUE 11-54422	\$599,999	8/01/2012 - 7/30/2017 <b>CURRENT</b>
<b>Total</b>			<b>\$1,218,876</b>	

**Funding Awards: Completed – External Federal Agency**

Title	Investigator(s)	Agency/Source	Amount	Period
MRI-R2 Consortium: Development of a Software Traceability Instrument to Facilitate and Empower Traceability Research and Technology Transfer	J. Huang (PI) (DePaul U.), J. Maletic (KSU), D. Poshyvanyk (William&Mary)	National Science Foundation MRI-R2 CNS 09-59924  <b>\$2,000,000 Project Total</b>	\$389,292	6/01/2010- 8/31/13
Research Experience for Undergraduates: Supplement to CCF 08-1102	J. Maletic (PI)	National Science Foundation CCF 11-29908	\$6,250	5/20/2011- 7/31/11
Research Experience for Undergraduates: Supplement to CCF 08-1102	J. Maletic (PI)	National Science Foundation CCF 10-37576	\$6,250	5/20/2010- 7/31/10
CPA-SEL-T: Collaborative Research: Traceability <sup>+</sup> : A Service Oriented Framework to Support Value-Added Software Traceabilit	Maletic, J., Hayes, J. (U. of Kentucky), Cleland-Huang, J. (DePaul U.)	National Science Foundation CPA CCF 08-11021  <b>\$750,000 Project Total</b>	\$250,000	8/1/2008- 7/31/12
Kent State University Scholarships for Broadening Participation in Sciences	Maletic, J.I. (PI), Ortiz, J., Selinger, R., Portman, J., Lee, S.	National Science Foundation S-STEM DUE 06-31088	\$499,926	9/15/2006- 8/31/2012
NIST Summer Undergraduate Research Fellowship - MSEL	Maletic, J. I. (PI), Bartolo, L., Stemen K.	National Institute of Standards (NIST) 70NANB3H1025	\$6,576	5/2003- 8/2003
A Framework to Combine Semantic and Structural Information for Static Analysis	Maletic, J. I. (PI)	National Science Foundation SE&L CCR 02-04175	\$150,000	8/2002- 7/2005
Interactive Display Models for Information Visualization in Virtual Reality	Maletic, J. I. (PI)	Office of Naval Research MURI N00014-00-1-0769	\$81,567	6/2001- 9/2002
Instruments for Systems, Software, and Database Research	Maletic, J. I. (PI) Dasgupta, D. Lin, K.I., Das, G.	National Science Foundation CCR 98-18323 (\$38,000) University of Memphis cost share (\$21,000)	\$59,000	3/1999- 2/2002
Automated Data Cleansing	Maletic, J. I. (PI)	Office of Naval Research N00014-99-1-0730	\$99,752	5/1999- 5/2001
Workshop on Data Visualization	Maletic, J. I. (PI), Shah, P.	National Science Foundation IIS 99-07299	\$10,264	5/1999- 4/2001
Workshop on Data Visualization	Maletic, J. I. (PI), Shah, P.	Office of Naval Research N00014-99-1-0522	\$10,263	5/1999- 4/2000

**Funding Awards: Completed – External Federal Agency (continued)**

<b>Title</b>	<b>Investigator(s)</b>	<b>Agency/Source</b>	<b>Amount</b>	<b>Period</b>
Cognitive Studies of Complex Data Visualization	Shah, P. (PI), Maletic, J. I.	Office of Naval Research N00014-98-1-0350	\$71,385	2/1998- 9/2000
Analysis of Object Oriented Programming Paradigm as it Relates to Problem Solving	Maletic, J. I. (PI)	National Aeronautics and Space Administration (NASA) Office of Space Science, Graduate Student Researchers Fellowship	\$44,000	7/1993- 7/1995
<b>Total</b>			<b>\$1,684,525</b>	

**Funding Awards: Completed – External Industry**

<b>Title</b>	<b>Investigator(s)</b>	<b>Agency/Source</b>	<b>Amount</b>	<b>Period</b>
Visualizing Large Scale Software Change Characteristics	Maletic, J.I.	ABB Inc. (Normal overhead rate)	\$120,000	1/2012-12/2013
Visualizing Large Scale Software Change Characteristics	Maletic, J.I.	ABB Inc. (Normal overhead rate)	\$61,720	1/2011-12/2011
Automatic Platform Change via a Transformational Approach using srcML	Maletic, J.I. (PI), Collard, M.L.	ABB Inc. (Normal overhead rate)	\$59,741	11/2009-12/2010
Visualizing Large Scale Software Change Characteristics	Maletic, J.I.	ABB Inc. (Normal overhead rate)	\$60,208	11/2009-12/2010
Automatic Platform Change via a Transformational Approach using srcML	Maletic, J.I. (PI), Collard, M.L.	ABB Inc. (Normal overhead rate)	\$60,199	6/2008-5/2009
Equipment Grant for purchase of PN250b	Maletic, J.I.	SMARTer Kids Grant for SMART Roomware (NEC)	\$1,200	4/25/2002
C++ Training Program	Maletic, J.I., Lin, K.I.	Brother Inc., Memphis TN (Normal overhead rate)	\$12,500	7/1998-8/1998
<b>Total</b>			<b>\$375,568</b>	

**Funding Awards: Completed – University or State**

<b>Title</b>	<b>Investigator(s)</b>	<b>Agency/Source</b>	<b>Amount</b>	<b>Period</b>
Diversifying Ohio in STEM (DO-STEM) – Sub-award from Central State University	J. Maletic	Choose Ohio First	\$42,300	7/1/08-6/30/13
Support for the Evolution of Software Traceability Links	J. Maletic	Kent State University Summer Research Appointment	\$6,500	6/06-8/06
Automatically Clustering Software Components	J. Maletic	The University of Memphis, New Faculty Research Initiative	\$8,500	5/99-4/00
Supplemental Overhead in support of GSRP Fellowship	J. Maletic	Graduate School, Wayne State University	\$1,000	7/93-6/94
<b>Total</b>			<b>\$58,300</b>	

## Proposals Submitted & Unfunded – External Federal Agency

1. *CI-New: Collaborative: An Infrastructure that Combines Eye Tracking into Integrated Development Environments to Study Software Development and Program Comprehension*, Maletic, J.I. (PI), Sharif, B. (YSU), National Science Foundation CRI 15-590, **\$1M**, Jan. 2016, Pre-proposal Encouraged, Rated Competitive
2. *SHF: Small: Supporting System Wide Adaptive Changes in Large-Scale Software*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 15-590, **\$500K**, Nov. 2015, Rated Competitive
3. *SHF: Small: Facilitating Software Maintenance using Syntactic-Aware Domain-Specific Exploration and Manipulation Languages*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 15-590, **\$500K**, Jan. 2015
4. *SHF: Small: Facilitating Software Maintenance using Syntactic-Aware Domain-Specific Search and Transformation Languages*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 13-579, **\$500K**, Dec. 2013, Rated Competitive
5. *SHF: Small: Supporting Large Scale Adaptive Maintenance and Migration*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 12-581, **\$500K**, Dec. 2012
6. *CI-ADDO-EN: CI-ADDO-EN: Collaborative Research: TraceLab and Beyond - Building a Shared Research Environment for Empirical Software Engineering Experiments*, Cleland-Huang, J., (DePaul), Poshyvanyk, D., (W&M), Maletic, J.I. (KSU), Hayes, J. (U of Kentucky), Gethers, M. (UMBC), National Science Foundation CRI 11-536, **\$125K** (KSU), \$950K Total, Oct. 2012, Rated Competitive
7. *SHF: Small: Automated Construction of Transformations Rules to Support Large Scale Adaptive Changes*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 11-557, **\$358,320**, Dec. 2011
8. *CI-ADDO-EN: Enhancing the srcML Infrastructure A Robust Reverse Engineering Parser to Support Static Analysis, Transformation, and Syntactic Differencing*, Maletic, J.I. (PI), Collard, M.L. (Akron), National Science Foundation CRI 11-536, KSU: **\$675,549**, Akron: \$227,164, Total: \$902,713, Oct. 2011, Rated Competitive
9. *Kent State University Scholarships for Broadening Participation in Sciences*, Maletic, J.I. (PI), Ortiz, J., Selinger, R., Portman, J., Lee, S., National Science Foundation S-STEM, **\$599,954**, August 2010
10. *SHF: Medium: Collaborative Research: The Software Engineering of Generic Libraries*, J. Maletic (PI), J. Seik (U Colorado), M. Collard (U Akron), National Science Foundation - CCF: Core Programs, **\$738,003** KSU, \$244,578 UC, \$217,415 Akron, \$1,199,996 Total, August 2009, Rated Competitive
11. *The Software Engineering of Generic Libraries*, J. Maletic (PI), National Science Foundation - CCF: Core Programs-Small, **\$488,186**, 3 years, Dec. 2008, Rated Competitive
12. *Collaborative Research: Visualization Support for Software Evolution*, Marcus, A. (PI), Maletic, J., National Science Foundation – CPA, **\$455,000** (KSU), \$468,000 (WSU), 3 years, Oct. 2006
13. *Collaborative Research: Visualization Support for Software Evolution*, Marcus, A. (PI), Maletic, J., Draghici, S., National Science Foundation – CPA, **\$451,068** (KSU), \$465,000 (WSU), 3 years, June 2005
14. *Collaborative Research: A 3D Metaphor for Software and Data Visualization*, Marcus, A. (PI), Maletic, J., Draghici, S., National Science Foundation - CPA, **\$286,132** (KSU), \$299,694 (WSU), 3 years, March 2004
15. *Meta-differencing: A Mechanism for Analyzing Source Code Changes*, Maletic, J. (PI), National Science Foundation - CPA, **\$392,695**, 3 years, March 2004
16. *The Kent State University Computer Science Educational and Economic Initiative*, Walker, R. (PI), Lu, C.C., Maletic, J., National Science Foundation - CSEMS-CS, ENG & MATH Scholarships, **\$398,733**, 4 years, January 2004
17. *Supporting Maintenance and Development Through Visualizing Software Systems in Collaborative Virtual Reality Environments*, Maletic, J. (PI), Leigh, J., National Science Foundation - NGS, **\$591,265**, 3 years, November 2001
18. *ITR/SY+SI: Supporting Maintenance and Development through Visualizing Software Systems in Collaborative Virtual Reality Environments*, Maletic, J. (PI), Leigh, J., National Science Foundation - ITR, **\$457,803**, 3 years, January 2001
19. *Interactive Display Models for Information Visualization in Virtual Reality*, Maletic, J. (PI), Office of Naval Research, **\$181,902**, 3 years, August 2000
20. *Combining Information Retrieval Methods and Structural Measures to Define Semantic Similarities Between Source Code Components*, Maletic, J. (PI), National Science Foundation – CAREER, **\$516,007**, 5 years, July 2000
21. *Supporting Software Reuse through Research and Education*, Maletic, J. (PI), National Science Foundation – CAREER, **\$351,196**, 4 years, July 1999
22. *Supporting Reuse and Understanding using Latent Semantic Analysis*, Maletic, J. (PI), National Science Foundation – CAREER, **\$208,893**, 4 years, July 1998



### **Proposals Submitted & Unfunded – University or State**

1. *Eye Tracking and Cognitive Processing During Comprehension: An Interdisciplinary Proposal*, J. Folk (PI), J. Maletic, Kent State University OBR Research Incentive, **\$34,750**, March 2010
2. *Eye Tracking and Cognitive Processing During Comprehension: An Interdisciplinary Proposal*, J. Folk (PI), J. Maletic, Kent State University OBR Research Incentive, **\$50,000**, Dec. 2008
3. *STEM Scholarship Program*, Kent State University (Lead) *In conjunction with:* KSU Regional Campuses, Youngstown State University, Cuyahoga Community College, Lorain County Community College, Stark State Technical College, Lakeland Community College, A. Gericke (Lead), J. Ortiz (Lead), J. Maletic (Co-PI), D. Stroup (Co-PI), J. Blank (Co-PI), R. Gregory (Co-PI), B. Anderson (Co-PI), J. Gleeson (Co-PI), A. Leff (Co-PI), D. Lawless-Andric (Co-PI), State of Ohio, Choose Ohio First Scholarship Program, \$8,069,460 (Total), **\$5,990,500** (KSU), Jan. 2008
4. *sv3D: A 3D Information Visualization System*, Maletic, J.I, Volkert, L.G., Kent State University OBR Research Challenge, **\$59,836**, Oct. 2005
5. *sv3D: A 3D Information Visualization System to Support Simultaneous Display of Multiple Attributes Over Partitioned Information Spaces*, Maletic, J.I, Volkert, L.G., Kent State University OBR Research Challenge, **\$69,825**, Oct. 2004

## Publications and Scholarly Work

Citation counts are taken from Google Scholar ([Maletic](#)) and retrieved on 25 January 2017.

### Bibliometrics

- Google Scholar *h-index* is **36** and *i10-index* is **73**, *i100-index* is **12**, total citations **5479**.
- Top 100 *Most Influential Scholars* in Software Engineering 2016, [AMiner](#), (ranked 78th).
- 5<sup>th</sup> most cited paper at the IEEE/ACM International Conference on Software Engineering (ICSE) since 2003 ([SHINE](#)).
- #1 most cited paper at the International Working Conference on Reverse Engineering (WCRE) since 2003 ([SHINE](#)).
- 2<sup>nd</sup> most cited paper at the ACM Symposium on Software Visualization (SoftVis) since 2003 ([SHINE](#)).
- 4<sup>th</sup> most cited paper at the IEEE International Conference on Program Comprehension (ICPC) since 2003 ([SHINE](#)).
- 7<sup>th</sup> most cited paper at the ACM Symposium on Document Engineering (DocEng) since 2002 ([SHINE](#)).
- 10<sup>th</sup> most cited paper at the IEEE/ACM International Conference on Automated Software Engineering (ASE) since 2001 ([SHINE](#)).
- Ranked 203 (of approximately 14,000 authors world-wide with an *h-index*>1) in software engineering in the last 10 years by [Microsoft Academic Search](#).

### Paper Awards/Recognition

- *Most Influential Paper Award*. IEEE CSMR-WCRE 2014, the European Conference on Software Maintenance (CSMR'14) and the International Working Conference on Reverse Engineering (WCRE'14). Most influential paper from the events 10 years previous. Awarded to paper [50] published at the IEEE International Working Conference on Reverse Engineering 2004.
- *Most Influential Paper Award*. IEEE International Conference on Program Comprehension (ICPC) 2013. Most influential paper from the event 10 years previous. Awarded to paper [42] published at the International Workshop on Program Comprehension 2003.
- *Invited to Journal Special Issue of the Best Papers*. IEEE Working Conference on Reverse Engineering (WCRE) 2012 paper [102], *Journal of Software: Evolution and Process*
- *Invited to Journal Special Issue of the Best Papers*. IEEE International Conference on Program Comprehension (ICPC) 2010 paper [92], *Journal of Empirical Software Engineering*
- *Invited to Journal Special Issue of the Best Papers*. IEEE International Conference on Program Comprehension (ICPC) 2009 paper [83], *Journal of Software Quality*
- *Invited to Journal Special Issue of the Best Papers*. IEEE International Symposium on Web Site Evolution (WSE) 2006 paper [62], *Journal of Software Maintenance and Evolution: Research and Practice*
- *Invited to Journal Special Issue of the Best Papers*. IEEE Working Conference on Reverse Engineering (WCRE) 2005 paper [57], *Information and Software Technology*

### Works in Progress

- Alali, A., Sutton, A., Maletic, J.I., "Assessing Time Window Size in the Mining of Software Repositories for Evolutionary Couplings", to be submitted.
- Bartman, B., Collard, M.L., Newman, C., Maletic, J.I., "srcQL: A Syntax-Aware Query Language for Source Code" to be submitted.
- Decker, M., Collard, M.L., Maletic, J.I., "srcDiff: A Syntactic Differencing Approach to Improve the Understandability of Deltas" to be submitted
- Nahla Abid, Hend Alrasheed, Natalia Dragan, Jenna Wise, Bonita Sharif and Jonathan Maletic, "Analyzing Eye Movements of Programmers During Java Method Summarization" submitted to ICSME 2016
- Christian Newman, Reem Alsuhaibani, Michael Collard and Jonathan Maletic, "Lexical Categories for Source Code Identifiers" o be submitted
- Nahla Abid, Natalia Dragan, Michael Collard and Jonathan Maletic, "Using Stereotypes in the Automatic Generation of Natural Language Documentation for C++ Methods" to be submitted

### Works Under Review

- Decker, M., Collard, M.L., Maletic, J.I., "srcDiff: A Syntactic Differencing Approach to Improve the Understandability of Deltas", submitted to the *Journal of Software: Evolution and Process*, Dec. 7, 2016.

### Works Accepted and to Appear

- Brian Bartman, Christian Newman, Michael Collard and Jonathan Maletic, “srcQL: A Syntax-Aware Query Language for Source Code” in the Proceedings of the 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering(SANER), Klagenfurt, Austria, Feb. 20-24, 5 pages (*to appear*)
- Newman, C., Alsuhaibani, R., Collard, M.L., Maletic, J.I., (2017) “Lexical Categories for Source Code Identifiers”, in the Proceedings of the 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering(SANER), Klagenfurt, Austria, Feb. 20-24, 12 pages (*to appear*) (24% acceptance rate)
- Alqadi, B., Maletic, J.I., (2017) “An Empirical Study of Debugging Patterns Among Novices Programmers”, in the Proceedings of the 48th ACM Technical Symposium on Computer Science Education (SIGCSE), Seattle, Washington, USA, March 8-11, 6 pages (*to appear*). (30% acceptance rate)
- Newman, C., Bartman, B., Collard, M.L., Maletic, J.I., (2017) “Simplifying the Construction of Source Code Transformations via Automatic Syntactic Restructurings”, *Journal of Software Evolution & Process*, Vol. ?, No. ?, Accepted Sept. 6, 2016, 18 pages, (*to appear*)

### Publications (refereed)

124. Sharif, B., Maletic, J.I., (2016), “Studying Developer Gaze to Empower Software Engineering Research and Practice”, in the Proceedings of the 24th ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), Visions and Reflections Track, Seattle WA, USA, Nov. 13-18, 4 pages. (26% acceptance rate for *VaR track*).
123. Michaud, H., Guarnera, D., Collard, M.L., Maletic, J.I., (2016), “Recovering Commit Branch of Origin”, in the Proceedings of 32nd IEEE International Conference on Software Maintenance & Evolution (ICSME’16), Raleigh Durham, NC, USA, Oct 2-10, 10 pages. (29% acceptance rate)
122. Newman, C. D., Maletic, J.I., Collard, M.L., (2016), “srcType: A Tool for Efficient Static Type Resolution”, in the Proceedings of 32nd IEEE International Conference on Software Maintenance & Evolution (ICSME’16), (Tool Demonstrations Track) Raleigh Durham, NC, USA, Oct 2-10, 2 pages. (43% acceptance rate for *tool track*)
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### Book Chapters (refereed)

1. Sharif, B., Dragan, N., Sutton, A., Collard, M.L., Maletic, J.I., (2013) “Identifying and Analyzing Software Design Activities”, Chapter 10 in *Software Designers in Action: A Human-Centric Look at Design Work*, Petre, Marian, van der Hoek, Andre, Eds., Chapman and Hall/CRC Press, September, ISBN 978-1466501096, 22 pages of 452 pages.
2. Orlena Gotel, Jane Cleland-Huang, Jane Huffman Hayes, Andrea Zisman, Alexander Egyed, Paul Grünbacher, Alex Dekhtyar, Giuliano Antoniol, Jonathan Maletic, Patrick Mäder, (2012) “Traceability Fundamentals”, a Chapter in *Software and Systems Traceability*, Editors: Jane Cleland-Huang, Orlena Gotel, Andrea Zisman, Springer London, pp. 3-22. ISBN 978-1-4471-2238-8 (Print) 978-1-4471-2239-5 (Online) (*Cited by 52 Google Scholar*)
3. Orlena Gotel, Jane Cleland-Huang, Jane Huffman Hayes, Andrea Zisman, Alexander Egyed, Paul Grünbacher, Alex Dekhtyar, Giuliano Antoniol, Jonathan Maletic, (2012) “The Grand Challenge of Traceability (v1.0)”, a Chapter in *Software and Systems Traceability*, Editors: Jane Cleland-Huang, Orlena Gotel, Andrea Zisman, Springer London, pp. 343-409. ISBN 978-1-4471-2238-8 (Print) 978-1-4471-2239-5 (Online) (*Cited by 42 Google Scholar*)
4. Maletic, J. I. and Marcus, A., (2010), "[Data Cleansing - A prelude to knowledge discovery](#)", in *Data Mining and Knowledge Discovery Handbook: A Complete Guide for Practitioners and Researchers*, 2<sup>nd</sup> Edition. O. Maimon, Rokach, L. Editors, Eds., Springer, pp. 19-32. ISBN 0-387-24435-2. (*Cited by 27 Google Scholar*)

### Articles, Invited Submissions, & Technical Reports (non-refereed)

1. Sharif, B., Dragan, N., Sutton, A., Collard, M.L., Maletic, J.I., (2010), “Identifying Design Activities via Discourse and Content Analysis”, in the proceedings of the NSF Workshop on Studying Professional Software Development, University of California-Irvine, Irvine, CA, February 8-10.
2. Guéhéneuc, Y.G., Kagdi, H., Maletic, J., (2009), “[Working Session: Using Eye-Tracking to Understand Program Comprehension](#)”, in Proceedings of the 16<sup>th</sup> IEEE International Conference on Program Comprehension (ICPC'09), Vancouver, BC, Canada, May 17-19, pp. 278-279. (*Cited by 5 Google Scholar*)
3. Maletic, J. I., Kagdi, H., (2008), "[Expressiveness and Effectiveness of Program Comprehension: Thoughts on Future Research Directions](#)", in Proceedings of the IEEE Frontiers of Software Maintenance (FoSM'08), Beijing China, Sept. 28 – Oct. 4, pp. 31-37. ISBN 978-1-4244-26555-3. (*Invited Submission*) (*Cited by 21 Google Scholar*)
4. Antoniol, G., Berenbach, B., Egyed, A., Ferguson, S., Maletic, J., Zisman, A., Cleland-Huang, J., Dekhtyar, A., Hayes, J. H., (2006), "[Center for Excellence for Traceability: Problem Statements and Grand Challenges](#)", Lexington, KY: Center of Excellence for Traceability COET-GCT-06-01-0.9, September 10, 10 pages. (*Cited by 16 Google Scholar*)
5. Maletic, J.I., Collard, M.L., (2005), “[Adding Structure to Unstructured Text](#)”, in the proceedings of Wright Center of Innovation for Advanced Data Management and Analysis and LexisNexis Conference on Using Metadata to Manage Unstructured Text, Dayton Ohio, October 7, 5 pages.
6. Maletic, J.I., (2002), “Interactive Display Models for Information Visualization in Virtual Reality”, in the proceedings of the MAS V – Military Personnel Research Workshop, Memphis, TN, June 4.
7. Maletic, J.I., (2001), “Automated Data Cleansing”, in the proceedings of the MAS IV – Military Personnel Research Science Workshop, Memphis, TN, June 4.
8. Maletic, J.I., Shah, P., (2000), “Workshop on Data Visualization”, in the proceedings of the 2000 NSF Information and Data Management Workshop: Research Agenda into the Future, Chicago, IL, March 5-7, pp. 144-146.
9. Marcus, A., Maletic, J.I., (2000), “Utilizing Association Rules for the Data Cleansing”, The University of Memphis, Division of Computer Science, TR-CS-00-04, 5-8-2000
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### Editor of Proceedings

1. *The Proceedings of the 24<sup>th</sup> IEEE International Conference on Program Comprehension (ICPC 2016)*, G. Bavota, M.L. Collard, J. I. Maletic (Editors), May 16-17, Austin, Texas, USA, ISBN 978-1-5090-1428-6, 2016.

2. *The Proceedings of the 28<sup>th</sup> IEEE International Conference on Software Maintenance (ICSM 2012)*, P. Tonella, M. Di Penta, J. I. Maletic (Editors), September, Riva Del Garda, Trento, Italy, ISBN 978-1-4673-2312-3, 2012.
3. *The Proceedings of the 14<sup>th</sup> IEEE Working Conference on Reverse Engineering (WCRE 2007)*, M. Di Penta, J. I. Maletic (Editors), October 28-31, Vancouver, BC, Canada, ISBN 0-7695-3034-6, 2007.
4. *The Proceedings of the ACM International Workshop on Empirical Assessment of Software Engineering Languages and Technologies (WEASEL'07)*, E. Kraemer, J.I. Maletic (Editors), November 5, Atlanta Georgia, USA, ACM, ISBN 978-1-59593-880-0, 2007.
5. *The Proceedings of the IEEE 4<sup>th</sup> International Workshop on Visualizing Software for Understanding and Analysis VISSOFT 2007*, J.I. Maletic, A. Telea, A. Marcus (Editors), June 25-26, Banff Alberta, Canada, IEEE, ISBN 1-4244-0600-5, 2007.
6. *The Proceedings of the ACM 3<sup>rd</sup> International Workshop on Traceability in Emerging Forms of Software Engineering TEFSE 2005*, J.I. Maletic, J. Cleland-Huang, J. H. Hayes, G. Antoniol (Editors), November 8<sup>th</sup>, Long Beach California, ACM, ISBN 1-59593-243-7, 2005.
7. *The Proceedings of the IEEE 3<sup>rd</sup> International Workshop on Visualizing Software for Understanding and Analysis VISSOFT 2005*, A. Marcus, J.I. Maletic, M.-A. Storey, M. Lanza, S. Ducasse (Editors), September 25<sup>th</sup>, Budapest Hungary, IEEE, ISBN 0-7803-9540-9, 2005.
8. *The Proceedings of the IEEE 13<sup>th</sup> International Workshop on Program Comprehension IWPC 2005*, J.R. Cordy, H. Gall, J.I. Maletic (Editors), May 15-16, St. Louis, Missouri USA, IEEE Computer Society, ISBN 0-7695-2254-8, 2005.
9. *The Proceedings of the 2002 ACM Symposium on Document Engineering*, R. Furuta, J.I. Maletic, E. Munson (Editors), Nov. 8-9, McLean, Virginia USA, ACM Press, ISBN 1-58113-594-7, 2002.

#### Guest Editor of Journal Special Issues

1. G. Bavota, M.L. Collard, J. I. Maletic, Guest Editors, Special Issue: Best Papers from ICPC 2016, *Journal of Software: Evolution and Process*, vol. ?, No. ?, (to appear 2017/18).
2. M. Di Penta, J. I. Maletic, Guest Editors, Special Issue: Best Papers from ICSM 2012, *International Journal of Empirical Software Engineering*, vol. 20, No. 2, April 2015.
3. M. Di Penta, J. I. Maletic, Guest Editors, Special Issue: Best Papers from WCRE 2007, *Software Quality Journal*, vol. 17, No. 4, 2009.
4. J. R. Cordy, H. C. Gall, J. I. Maletic, Guest Editors, Special Issue: Program Comprehension, *Software Quality Journal*, vol. 14, No. 3, 2006.

#### Theses

- Maletic, J.I., *The Software Service Bay: A Knowledge Based Software Maintenance Methodology*, Ph.D. Dissertation, Wayne State University, Department of Computer Science, 1995.
- Maletic, J.I., *Refinement Metrics: Assessing a Programming Language's Support of the Stepwise Refinement Process*, M.S. Thesis, Wayne State University, Department of Computer Science, 1989.

#### Formal Tool Demonstrations

1. "srcSlice: A Tool for Efficient Static Forward Slicing", at the 38th ACM/IEEE International Conference on Software Engineering (ICSE'16) Tool Demonstrations Track, Austin, Texas USA, May 21, 2016.
2. "srcML: An Infrastructure for the Exploration, Analysis, and Manipulation of Source Code", at the 29th IEEE International Conference on Software Maintenance (ICSM) Eindhoven, The Netherlands, Sept. 25, 2013.
3. "MosaiCode: Visualizing Large Scale Software: A Tool Demonstration", at the IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT), Williamsburg, VA, USA, Sept 31, 2011.
4. "difffact: Factoring Differences for Iterative Change Management", at the 6th IEEE International Workshop on Source Code Analysis and Manipulation (SCAM), Philadelphia, Pennsylvania USA, September 28, 2006.
5. "Source Viewer 3D (sv3D) A System for Visualizing Multi Dimensional Software Analysis Data", Research Demonstration at the 2nd IEEE Workshop of Visualizing Software for Understanding and Analysis (VISSOFT), Amsterdam, The Netherlands, September 22, 2003.
6. "sv3D - 3D Representations for Software Visualization", Research Demonstration at the ACM Symposium on Software Visualization (SoftVis), San Diego, CA, June 12, 2003.
7. "Comprehension of Software Analysis Data Using 3D Visualization", Research Demonstration at the IEEE International Workshop on Program Comprehension (IWPC), Portland, OR, May 10, 2003.
8. "Source Viewer 3D (sv3D) – A Framework for Software Visualization", Research Demonstration at the 25th ACM/IEEE International Conference on Software Engineering (ICSE), Portland, OR, May 8, 2003.

### **Invited Participation in Workshop, Working Session, or Panel Session**

- Mining & Modeling Unstructured Data in Software - Challenges for the Future, NII Shonan Meeting Seminar 084, Japan, March 6-10, 2016. *Invited event.* <http://shonan.nii.ac.jp/seminar/084/>
- Workshop on Text Analysis in Software Engineering (TAinSE), co-located with the ACM/IEEE International Conference on Software Engineering (ICSE), San Francisco, CA, May 18<sup>th</sup>, 2013. *Invited event with \$1,100 Travel support.*
- Workshop on Text Analysis in Software Engineering, co-located with the ACM/IEEE International Conference on Software Engineering (ICSE), Zurich Switzerland, June 4<sup>th</sup> 2012. *Invited event.*
- Workshop on Concepts (WoC), Bergen Language Design Laboratory (BLDL), University of Bergen, Bergen Norway, November 5<sup>th</sup>, 2007. *Invited event fully supported and funded by BLDL.*
- Working Session: Comprehension and Maintenance of Large Scale Multi-Language Software Applications at the IEEE 22<sup>nd</sup> International Conference on Software Maintenance (ICSM), Philadelphia, Pennsylvania, September 27<sup>th</sup>, 2006. Organizers: K. Kontogianis, K. Wong, P. Linos. *Invited event.*
- The Center of Excellence for Traceability 1<sup>st</sup> Workshop on Grand Challenges in Traceability (GCW'06), sponsored by National Aeronautics and Space Administration (NASA) IV & V, Fairmont WV, August 4-5, 2006. Organizers: J. Hayes, A. Dekhtyar, J. Cleland-Huang. *Fully supported invited event funded by NASA.* 10 international participants.

### **Presentations at Conferences, Symposia, and Workshops**

1. "srcSlice: A Tool for Efficient Static Forward Slicing", at the 38th ACM/IEEE International Conference on Software Engineering (ICSE'16), Austin, Texas USA, May 21, 2016.
2. "Exploration, Analysis, and Manipulation of Source Code using the srcML Infrastructure", at the 30<sup>th</sup> International Conference on Software Maintenance & Evolution (ICSME), Victoria, British Columbia, Canada, Oct. 2<sup>nd</sup> and 3<sup>rd</sup>, 2014.
3. "Improving Feature Location by Enhancing Source Code with Stereotypes", at the 29th IEEE International Conference on Software Maintenance (ICSM), Eindhoven, The Netherlands, Sept. 26, 2013.
4. "Understanding Large-Scale Adaptive Changes from Version Histories: A Case Study", at the 29th IEEE International Conference on Software Maintenance (ICSM), Eindhoven, The Netherlands, Sept. 24, 2013.
5. "A Preliminary Investigation of Using Age and Distance Measures in the Detection of Evolutionary Couplings" at the 10<sup>th</sup> IEEE/ACM Working Conference on Mining Software Repositories (MSR), San Francisco, California, USA, May 19, 2013.
6. "A TraceLab-Based Solution for Identifying Traceability Links using LSI", at the 7<sup>th</sup> IEEE International Workshop on Traceability in Emerging forms of Software Engineering (TEFSE), San Francisco, California, USA, May 19, 2013.
7. "Empirically Examining the Parallelizability of Open Source Software Systems", at the IEEE International Working Conference on Reverse Engineering (WCRE'12), Kingston, Ontario, Canada, October 17, 2012.
8. "A Very Efficient and Scalable Forward Static Slicing Approach", at the IEEE International Working Conference on Reverse Engineering (WCRE'12), Kingston, Ontario, Canada, October 18, 2012.
9. "MosaiCode: Visualizing Large Scale Software: A Tool Demonstration", at the IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'11), Williamsburg, VA, USA, Sept 31.
10. "Categorizing Commits Based on Method Stereotypes", at the 27th IEEE International Conference on Software Maintenance (ICSM'11), Williamsburg, VA, USA, Sept 26.
11. "An Eye Tracking Study on the Effects of Layout in Understanding the Role of Design Patterns", at the 26th IEEE International Conference on Software Maintenance (ICSM'10), Timisoara, Romania, Sept 12 – 18.
12. "An Eye tracking Study on camelCase and under\_score Identifier Styles", at the 18<sup>th</sup> IEEE International Conference on Program Comprehension (ICPC'10), Braga, Portugal, June 30 – July 2, 2010
13. "Identifying Design Activities via Discourse and Content Analysis", at the NSF Workshop on Studying Professional Software Development, University of California-Irvine, Irvine, CA, February 8, 2010.
14. "Using Method Stereotype Distribution as a Signature Descriptor for Software Systems", at the IEEE International Conference on Software Maintenance (ICSM'09), Edmonton, Canada, September 20-26.
15. "The Effect of Layout on the Comprehension of UML Class Diagrams: A Controlled Experiment", at the IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'09), Edmonton, Canada, September 25.
16. "An Empirical Study on the Comprehension of Stereotyped UML Class Diagram Layouts", at the 16<sup>th</sup> IEEE International Conference on Program Comprehension (ICPC'09), Vancouver, BC, Canada, May 17-19.

17. "TQL: A Query Language to Support Traceability", at the 5<sup>th</sup> ACM International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'09), Vancouver, BC, Canada, May 18.
18. "Who Can Help Me with this Source Code Change?", at the 24<sup>th</sup> IEEE International Conference on Software Maintenance (ICSM'08), Beijing China, Oct. 1.
19. "Automatically Identifying C++0x Concepts in Function Templates", at the 24<sup>th</sup> IEEE International Conference on Software Maintenance (ICSM'08), Beijing China, Sept. 30 – Oct. 4.
20. "What's a Typical Commit? A characterization of Open Source Software Repositories", at the 16<sup>th</sup> IEEE International Conference on Program Comprehension (ICPC'08), Amsterdam, The Netherlands, June 13, 2008.
21. "On Using Eye Tracking in Empirical Assessment of Software Visualizations", at the 1st ACM Workshop on Empirical Assessment of Software Engineering Languages and Technologies (WEASELTech'07), Atlanta, GA, Nov. 5, 2007.
22. "Assessing the Comprehension of UML Diagrams via Eye Tracking", at the 15th IEEE International Conference on Program Comprehension (ICPC'07), Banff, Canada, June 26-29, 2007.
23. "Mining Software Repositories for Traceability Links", in Proceedings of 15th IEEE International Conference on Program Comprehension (ICPC 2007), Banff, Canada, June 26-29, 2007.
24. "Onion Graphs for Focus+Context Views of UML Class Diagrams", at the 4th IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT 2007), Banff Canada, June 25-26, 2007.
25. "Reverse Engineering Method Stereotypes" at the IEEE 22<sup>nd</sup> International Conference on Software Maintenance (ICSM06), Philadelphia, Pennsylvania USA, September 25, 2006.
26. "Visualization & Traceability: Challenges & Research Directions", at the Center of Excellence for Traceability Workshop on Grand Challenges in Traceability (GCW'06) at NASA IV & V Fairmont WV, August 4<sup>th</sup>, 2006.
27. "An XML-Based Approach to Support the Evolution of Model-to-Model Traceability Links", at the 3<sup>rd</sup> ACM International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'05), Long Beach CA, Nov. 8<sup>th</sup>, 2005.
28. "Adding Structure to Unstructured Text", at the Wright Center of Innovation for Advanced Data Management and Analysis and LexisNexis Conference on Using Metadata to Manage Unstructured Text, Dayton Ohio, October 7, 2005.
29. "Context-Free Slicing of UML Class Models", in Proceedings of the 21<sup>st</sup> IEEE International Conference on Software Maintenance (ICSM'05), Budapest Hungary, September 25-30 2005.
30. "Evaluating UML Class Diagram Layout based on Architectural Importance", in Proceedings of the 3<sup>rd</sup> IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'05), Budapest, Hungary September 25<sup>th</sup>, 2005.
31. "Towards a Taxonomy of Approaches for Mining of Source Code Repositories" at the International Workshop on Mining Software Repositories (MSR '05), St. Louis Missouri, May 17<sup>th</sup>, 2005.
32. "Document-Oriented Source Code Transformation using XML" at the 1<sup>st</sup> International Workshop on Software Evolution Transformation (SET'04), Delft, The Netherlands, Nov. 9<sup>th</sup>, 2004.
33. "Leveraging XML Technologies in Developing Program Analysis Tools" at the 4<sup>th</sup> International Workshop on Adoption-Centric Software Engineering (ACSE '04) – ICSE'04 Workshop, Edinburgh, Scotland, May 25, 2004
34. "Combining Traceability Link Recovery with Conformance Analysis via a Formal Hypertext Model", at the 2<sup>nd</sup> International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'03), Montreal, Canada, October 7<sup>th</sup>, 2003
35. "CFB: A Call For Benchmarks – for Software Visualization", at the 2<sup>nd</sup> IEEE Workshop of Visualizing Software for Understanding and Analysis (VISSOFT'03), Amsterdam, The Netherlands, September 22<sup>nd</sup>, 2003
36. "Recovering Documentation-to-Source-Code Traceability Links using Latent Semantic Indexing" at the 25<sup>th</sup> ACM/IEEE International Conference on Software Engineering (ICSE'03), Portland, OR, May 6, 2003
37. "A Task Oriented View of Software Visualization", at the IEEE Workshop of Visualizing Software for Understanding and Analysis (VISSOFT'02), Paris France, June 26, 2002.
38. "Source Code Files as Structured Documents", at the 10<sup>th</sup> IEEE Workshop on Program Comprehension (IWPC'02), Paris France, June 27, 2002.
39. "Interactive Display Models for Information Visualization in Virtual Reality", at the MAS V – Military Personnel Research Workshop, Memphis, TN, June 4, 2002

40. "Identification of High-Level Concept Clones in Source Code", at the 16<sup>th</sup> International Conference on Automated Software Engineering (ASE'01), San Diego, CA, November 26-29, 2001.
41. "Ordinal Association Rules for Error Identification in Data Sets", at the 10<sup>th</sup> International Conference on Information and Knowledge Management (CIKM'01) Atlanta, GA, November 5-10 2001.
42. "Automated Data Cleansing", at the MAS IV – Military Personnel Research Science Workshop, Memphis, TN, June 4, 2001.
43. "A System for Visualizing Object Oriented Software Systems in Virtual Reality", at the 9<sup>th</sup> International Workshop on Program Comprehension (IWPC'01), Toronto, Ontario, May 12-13, 2001.
44. "Visualizing Software in an Immersive Virtual Reality Environment", at the ICSE'01 Workshop on Software Visualization, Toronto, Ontario, May 13-14<sup>th</sup>, 2001
45. "Incorporation PSP into a Traditional Software Engineering Course: An Experience Report", at the Conference on Software Engineering Education & Training (CSEE&T'01), Charlotte, NC, February 19-21, 2001.
46. "Using Latent Semantic Analysis to Identify Similarities in Source Code to Support Program Understanding", at the 12<sup>th</sup> IEEE International Conference on Tools with Artificial Intelligence (ICTAI'00), Vancouver, British Columbia, November 13<sup>th</sup>-15<sup>th</sup>, 2000.
47. "Support for Software Maintenance Using Latent Semantic Analysis", at the 4<sup>th</sup> Annual IASTED International Conference Software Engineering and Applications (SEA'00), Las Vegas, Nevada, November 6<sup>th</sup>-9<sup>th</sup>, 2000.
48. "Data Cleansing: Beyond Integrity Checking" at The MIT Conference on Information Quality (IQ'00), Massachusetts Institute of Technology, Cambridge, October 20-22, 2000.
49. "Conclusions from the 1999 NSF & ONR Workshop on Data Visualization" at the National Science Foundation Information and Data Management Program Workshop, Chicago IL, March 7<sup>th</sup>, 2000.
50. "Automatic Software Clustering via Latent Semantic Analysis" at the 14<sup>th</sup> IEEE International Conference on Automated Software Engineering (ASE'99), Cocoa Beach, FL, Oct. 12-15<sup>th</sup>, 1999.
51. "Identification of Test Cases from Business Requirements of Software Systems", at the 5<sup>th</sup> Americas Conference on Information Systems (AMCIS'99), Milwaukee, WI, August 13-15, 1999.
52. "Decoding the Stepwise Refinement Process: Stepwise Refinement as a Problem Solving Activity", at the 19<sup>th</sup> Annual ACM Computer Science Conference, San Antonio, Texas, March 5-7, 1991.

### **Invited Presentations & Colloquia**

1. "Tutorial: Exploration, Analysis, and Manipulation of Source Code using srcML", at Mining & Modeling Unstructured Data in Software - Challenges for the Future, NII Shonan Meeting Seminar 084, Japan, March 6-10, 2016.
2. "Part-of-Speech Tagging of Source Code Identifiers (and Comments)", at Mining & Modeling Unstructured Data in Software - Challenges for the Future, NII Shonan Meeting Seminar 084, Japan, March 6-10, 2016.
3. "Tutorial: Exploration, Analysis, and Manipulation of Source Code using srcML", at the 5<sup>th</sup> Workshop on Mining Unstructured Data (MUD'15), Bremen, Germany, Sept 28, 2015.
4. The 21<sup>st</sup> International Conference on Program Comprehension (ICPC), San Francisco, California, May 21, 2013 "Most Influential Paper from IWPC 2003", co-presented with Collard, M.L.
5. Wayne State University, Department of Computer Science, March 8, 2012, "Tools, Methods, and Understanding for Software Evolution" & "Future Directions for the CS Department at WSU"
6. Frontiers of Software Maintenance (FoSM'08) at the 24<sup>th</sup> IEEE International Conference on Software Maintenance (ICSM'08), Beijing China, Sept. 30, 2008, "Expressiveness and Effectiveness of Program Comprehension: Thoughts on Future Research Directions"
7. Miami University, Oxford Ohio, Nov. 7, 2006, "srcML: Supporting Source-Code Analysis & Transformation"
8. ABB Inc., Cleveland Ohio, August 17<sup>th</sup>, 2006, "Supporting Source-Code Analysis & Transformation with srcML"
9. Wayne State University, January 27<sup>th</sup>, 2004, Computer Science Colloquium, "Source Code Models as an Infrastructure for Program Analysis and Transformation"
10. Kent State University, October 31<sup>st</sup>, 2001, Computer Science Colloquium, "Visualizing Software in a Virtual Reality Environment"
11. The University of Wisconsin - Milwaukee, March 30<sup>th</sup>, 2001 "Combining Semantic and Structural Information for Program Comprehension"
12. Kent State University, March 23<sup>rd</sup>, 2001 "Combining Semantic and Structural Information for Program Comprehension"
13. Oakland University, March 14<sup>th</sup>, 2001 "Combining Semantic and Structural Information for Program Comprehension"

14. The University of Delaware, March 9<sup>th</sup>, 2001 “Combining Semantic and Structural Information for Program Comprehension”
15. Syracuse University, March 5<sup>th</sup>, 2001 “Combining Semantic and Structural Information for Program Comprehension”
16. The University of New Hampshire, March 2<sup>nd</sup>, 2001 “Combining Semantic and Structural Information for Program Comprehension”
17. The University of Massachusetts-Lowell, March 1<sup>st</sup>, 2001 “Combining Semantic and Structural Information for Program Comprehension”
18. Worcester Polytechnic University, Feb. 23<sup>rd</sup> 2001 “Combining Semantic and Structural Information for Program Comprehension”
19. Western Michigan University, Feb. 15<sup>th</sup>, 2001 “Combining Semantic and Structural Information for Program Comprehension”
20. Drexel University, Feb. 9<sup>th</sup>, 2001 “Combining Semantic and Structural Information for Program Comprehension”
21. The University of Michigan - Dearborn, February 18<sup>th</sup>, 1997, "Stepwise Refinement and Problem Solving"
22. The City College of New York (CUNY) June 15<sup>th</sup>, 1996, "Stepwise Refinement and Problem Solving"
23. CSTAR of Andersen Consulting, May 10<sup>th</sup>, 1995, "Extracting Procedural Knowledge from Software Systems Using Inductive Learning Techniques"
24. NASA IV&V and CERC at West Virginia University, January 17-18, 1991 "Extracting Procedural Knowledge from Software Systems Using Inductive Learning Techniques"
25. The University of Michigan-Flint ACM Student Chapter Annual Future in Computing Seminar, Flint, Mi. Feb. 10, 1989 “Artificial Intelligence and Software Engineering”

#### **Software Systems Developed**

- *srcML* – an infrastructure to translate C/C++/C#/Java source code to srcML (an XML format). Both GPL and Commercial License available. Developed collaboratively with M. Collard. Available for download at [www.srcML.org](http://www.srcML.org)
- *MosaiCode* – an independent visualization front end for software analysis. Developed collaboratively with D. Mosora. Available for download at [www.sdml.info](http://www.sdml.info).
- *sv3D* – an independent visualization front end for software analysis tools. Developed collaboratively with L. Feng and A. Marcus. Available for download at [www.sdml.info](http://www.sdml.info).



## Professional Service (external)

### Journal Editorial Board

- Journal of Software: Evolution and Process (JSEP) 10/2010-current

### Steering Committee

- ACM International Symposium on Software and Systems Traceability (SST) 6/2005-current
- IEEE International Conference on Software Maintenance (ICSM) – *Elected* 9/2010-10/2013
- IEEE International Working Conference on Software Visualization (VISSOFT) 10/2012-10/2015
- IEEE Workshop on Visualizing Software for Understanding and Analysis (VISSOFT) 5/2006-10/2012
- IEEE International Conference on Program Comprehension (ICPC) – *Elected (Chair '07-'10)* 5/2005-6/2011
- ACM Symposium on Document Engineering (DocEng) 11/2002-10/2005

### Organization

- **Program Co-Chair** IEEE 24<sup>th</sup> International Conference on Program Comprehension (ICPC'16) 2016  
Austin Texas, May 14-15
- **Co-Organizer** *Technology Briefing*: “Exploration, Analysis, and Manipulation of Source Code using srcML”, at the 37<sup>th</sup> International Conference on Software Engineering (ICSE), Florence, Italy, May 19<sup>th</sup>, (90 min.) 2015
- **Co-Organizer** *Technical Briefing*: “Exploration, Analysis, and Manipulation of Source Code using the srcML Infrastructure”, at the 30<sup>th</sup> International Conference on Software Maintenance & Evolution (ICSME), Victoria, British Columbia, Canada, October 2-3 (50 min.) 2014
- **Program Co-Chair** IEEE 28<sup>th</sup> International Conference on Software Maintenance (ICSM'12) 2012  
Riva del Garda, Trento, Italy, September 23-30
- **Co-Organizer** *Working Session*: “Using Eye-Tracking to Understand Program Comprehension” at the 16<sup>th</sup> IEEE International Conference on Program Comprehension (ICPC'09), Vancouver, BC, Canada, May 17-19 2009
- **Program Co-Chair** IEEE 14<sup>th</sup> Working Conference on Reverse Engineering (WCRE'07) 2007  
Vancouver, B.C., Canada, October 29-31
- **Finance Chair** ACM/IEEE 22<sup>nd</sup> International Conference on Automated Software Engineering (ASE'07), Atlanta, Georgia Nov. 5-9 2007
- **Co-Organizer** ACM/IEEE 1<sup>st</sup> International Workshop on Empirical Assessment of Automated Software Engineering Language and Technologies (WEASELTech'07), Atlanta, Georgia Nov. 5 2007
- **Program Co-Chair** IEEE 4<sup>th</sup> Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'07), Banff, Canada, June 25-26 2007
- **General Chair** ACM 3<sup>rd</sup> International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'05), Long Beach, CA November 8 2005
- **General Chair** IEEE 13<sup>th</sup> International Workshop on Program Comprehension (IWPC'05) 2005  
St. Louis, Missouri, May 15-16
- **Organizing Committee** IEEE 3<sup>rd</sup> Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'05), Budapest, Hungary, Sept. 25 2005
- **Organizing Committee** IEEE 2<sup>nd</sup> Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'03), Amsterdam, The Netherlands Sept. 22 2003
- **Program Co-Chair** ACM Symposium on Document Engineering (DocEng'02) 2002  
McLean, Virginia Nov. 8-9
- **Treasurer** ACM Southeastern Michigan SIGART Local Chapter (SMART) 1/1996-3/1997

### Program Committee

#### 2017

- IEEE 33<sup>rd</sup> International Conference on Software Maintenance & Evolution (ICSME'17)
- 48th ACM Technical Symposium on Computer Science Education (SIGCSE '17)

#### 2016

- IEEE 32<sup>nd</sup> International Conference on Software Maintenance & Evolution (ICSME'16)
- IEEE International Working Conference on Software Visualization (VISSOFT'16)
- IEEE 16<sup>th</sup> International Working Conference on Source Code Analysis and Manipulation (SCAM'16)

- ACM/IEEE International Conference on Software Engineering - Student Contest on Software Engineering (SCORE '16)
  - IEEE 22<sup>nd</sup> International Conference on Software Analysis, Evolution, and Reengineering (SANER'16)
- 2015**
- IEEE 31<sup>st</sup> International Conference on Software Maintenance & Evolution (ICSME'15) – *ERA Track*
  - ACM/IEEE 37<sup>th</sup> International Conference on Software Engineering (ICSE'15) – *Review Committee*
  - IEEE 23<sup>rd</sup> International Conference on Program Comprehension (ICPC'15)
  - ACM 8<sup>th</sup> International Symposium on Software and Systems Traceability (SST'15)
  - IEEE International Working Conference on Software Visualization (VISSOFT'15)
- 2014**
- ACM/IEEE 36<sup>th</sup> International Conference on Software Engineering (ICSE'14) – *Review Committee*
  - IEEE International Working Conference on Software Visualization (VISSOFT'14)
  - IEEE 30<sup>th</sup> International Conference on Software Maintenance & Evolution (ICSME'14) – *ERA Track*
  - IEEE CSMR-WCRE 2014, the European Conference on Software Maintenance (CSMR'14) and the International Working Conference on Reverse Engineering (WCRE'14)
- 2013**
- IEEE 29<sup>th</sup> International Conference on Software Maintenance (ICSM'13)
  - IEEE 21<sup>st</sup> International Conference on Program Comprehension (ICPC'13)
  - ACM International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'13)
  - IEEE International Working Conference on Software Visualization (VISSOFT'13)
  - IEEE 20<sup>th</sup> Working Conference on Reverse Engineering (WCRE'13)
- 2012**
- ACM/IEEE 27<sup>th</sup> International Conference on Automated Software Engineering (ASE'12) -*attended PC meeting*
  - IEEE 19<sup>th</sup> Working Conference on Reverse Engineering (WCRE'12)
- 2011**
- ACM/IEEE 26<sup>th</sup> International Conference on Automated Software Engineering (ASE'11) -*attended PC meeting*
  - IEEE 27<sup>th</sup> International Conference on Software Maintenance (ICSM'11)
  - IEEE 27<sup>th</sup> International Conference on Software Maintenance (ICSM'11) -*Industrial Track*
  - ACM/IEEE 33<sup>rd</sup> International Conference on Software Engineering (ICSE'11) -*Research Demonstrations Track*
  - IEEE 19<sup>th</sup> International Conference on Program Comprehension (ICPC'11)
  - IEEE 11<sup>th</sup> International Working Conference on Source Code Analysis and Manipulation (SCAM '11)
  - IEEE 6<sup>th</sup> Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'11)
  - ACM 5<sup>th</sup> International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'11)
  - IEEE 18<sup>th</sup> Working Conference on Reverse Engineering (WCRE'11)
- 2010**
- ACM/IEEE 25<sup>th</sup> International Conference on Automated Software Engineering (ASE'10) -*Expert Review Panel*
  - IEEE 18<sup>th</sup> International Conference on Program Comprehension (ICPC'10)
  - IEEE 26<sup>th</sup> International Conference on Software Maintenance (ICSM'10)
  - ACM 5<sup>th</sup> Symposium on Software Visualization (SoftVis'10)
  - IEEE 17<sup>th</sup> Working Conference on Reverse Engineering (WCRE'10)
  - IEEE 6<sup>th</sup> International Conference on Predictive Models in Software Engineering (PROMISE'10)
- 2009**
- ACM/IEEE 24<sup>th</sup> International Conference on Automated Software Engineering (ASE'09) -*attended PC meeting*
  - IEEE 25<sup>th</sup> International Conference on Software Maintenance (ICSM'09)
  - IEEE 17<sup>th</sup> International Conference on Program Comprehension (ICPC'09)
  - ACM/IEEE 31<sup>st</sup> International Conference on Software Engineering (ICSE'09) -*Research Demonstrations Track*
  - IEEE 16<sup>th</sup> Working Conference on Reverse Engineering (WCRE'09)
  - ACM 6<sup>th</sup> Workshop on Mining Software Repositories (MSR'09)
  - ACM 4<sup>th</sup> International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'09)
  - IEEE 5<sup>th</sup> Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'09)
  - IEEE 12<sup>th</sup> International Workshop on Principles of Software Evolution (IWPSE'09)
- 2008**
- ACM/IEEE 23<sup>rd</sup> International Conference on Automated Software Engineering (ASE'08) -*attended PC meeting*
  - IEEE 16<sup>th</sup> International Conference on Program Comprehension (ICPC'08)
  - ACM 5<sup>th</sup> Workshop on Mining Software Repositories (MSR'08)
  - ACM 4<sup>th</sup> Symposium on Software Visualization (SoftVis'08)
  - IEEE 15<sup>th</sup> Working Conference on Reverse Engineering (WCRE'08)
- 2007**
- ACM/IEEE 22<sup>nd</sup> International Conference on Automated Software Engineering (ASE'07) -*attended PC meeting*

- IEEE 23<sup>rd</sup> International Conference on Software Maintenance (ICSM'07)
- IEEE 15<sup>th</sup> International Conference on Program Comprehension (ICPC'07)
- IEEE 10<sup>th</sup> International Workshop on Principles of Software Evolution (IWPSE'07)
- ACM 4<sup>th</sup> Workshop on Mining Software Repositories (MSR'07)

#### 2006

- ACM/IEEE 21<sup>st</sup> International Conference on Automated Software Engineering (ASE'06) -*attended PC meeting*
- IEEE 14<sup>th</sup> International Conference on Program Comprehension (ICPC'06)
- IEEE 22<sup>nd</sup> International Conference on Software Maintenance (ICSM'06)
- IEEE 13<sup>th</sup> Working Conference on Reverse Engineering (WCRE'06)
- ACM 3<sup>rd</sup> Symposium on Software Visualization (SoftVis'06)
- ACM 3<sup>rd</sup> Workshop on Mining Software Repositories (MSR'06)

#### 2005

- ACM/IEEE 20<sup>th</sup> International Conference on Automated Software Engineering (ASE'05)
- IEEE 21<sup>st</sup> International Conference on Software Maintenance (ICSM'05)
- IEEE 12<sup>th</sup> Working Conference on Reverse Engineering (WCRE'05)
- IEEE 8<sup>th</sup> International Workshop on Principles of Software Evolution (IWPSE'05)
- ACM/IEEE 8<sup>th</sup> International Conference on Model Driven Engineering Languages and Systems (MoDELS'05)
- ACM 20<sup>th</sup> Conf. on Object-Oriented Prog. Systems, Lang., and Apps. (OOPSLA'05) - *Onward! Committee*
- ACM 2<sup>nd</sup> Symposium on Software Visualization (SoftVis'05)

#### 2004

- ACM/IEEE 19<sup>th</sup> International Conference on Automated Software Engineering (ASE'04) - *attended PC meeting*
- IEEE 7<sup>th</sup> International Workshop on Principles of Software Evolution (IWPSE'04)
- IEEE 12<sup>th</sup> International Workshop on Program Comprehension (IWPC'04)
- IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC'04)
- ACM Symposium on Document Engineering (DocEng'04)
- ACM International Conference on Design of Communication (SIGDOC'04)

#### 2003-2001

- ACM Symposium on Document Engineering (DocEng'03)
- IEEE 11<sup>th</sup> International Workshop on Program Comprehension (IWPC'03)
- IEEE Workshop on Visualizing Software for Understanding and Analysis (VISOFT'02)
- ACM Symposium on Document Engineering (DocEng'01)

#### Session Chair

- WCRE'12 Reverse Engineering II
- VISOFT'11 Session 3: Program Dependencies
- ICSM'10 Research Session 18 – Quality
- ICPC'10 Technical Session VI – Software and System Structure
- ICSM'09 Research Session 12: Concept and Traceability Recovery
- VISOFT'09 Session IV: Full Papers II
- ICSE'09 Formal Research Demonstrations: Software Development Assistance
- ICPC'09 Session: Visualization and Sonification
- ICPC'08, Session 3: Program Comprehension Studies
- ASE'07, Session 9: Traceability
- ICSM'07, Session 13: Reverse Engineering
- MSR'05, Session 5: Integration and Collaboration
- SET'04, Session 3: Software Transformation
- ICSM'04, T3: Program Comprehension
- IWPC'03, Short Papers 1
- DocEng'01, Document Analysis and Retrieval
- SEA'00, Software Economics, Development, and Maintenance

#### Meeting Attendance and/or Service (not noted elsewhere)

- Attended JSEP Editorial Board Meeting, Austin TX May, 2016
- Attended ACM/IEEE International Conference on Software Engineering (ICSE) 2013
- Attended ACM/IEEE International Conference on Software Engineering (ICSE) 2012
- Attended ACM/IEEE International Conference on Software Engineering (ICSE) 2009
- Attended IEEE International Conference on Program Comprehension (ICPC) 2006
- Attended ACM/IEEE International Conference on Automated Software Engineering (ASE) 2005
- Attended ACM/IEEE International Conference on Software Engineering (ICSE) 2005

- Attended ACM/IEEE International Conference on Software Engineering (ICSE) 2004
- Technical Council on Software Engineering (TCSE) – attended meeting on 5/19/2005 to advocate name change for IWPC to ICPC. Motion passed with full support of council.
- Attended ACM Technical Symposium on Computer Science Education SIGCSE 2002

**Grant Proposal Reviewer & Panelist**

- Québec-Flanders Bilateral Research Cooperation Program 2015
- National Science Foundation (NSF) – CISE Review Panelist 2013
- Natural Sciences and Engineering Research Council of Canada (NSERC) (2 proposals) 2012
- National Science Foundation (NSF) – CISE Review Panelist 2011
- National Science Foundation (NSF) – CISE Review Panelist 2010
- Netherlands Organisation for Scientific Research (1 proposal) 2009
- Swiss National Science Foundation (2 proposals) 2009
- National Science Foundation (NSF) – CISE Review Panelist 2008
- National Science Foundation (NSF) – CISE Review Panelist (Two Panels) 2004
- National Science Foundation (NSF) – CISE Review Panelist 2003
- National Aeronautics and Space Administration (NASA) 2001

**Program & Position Evaluation (site visit)**

- Montclair University, Computer Science Department, External Program Reviewer 2010
- Miami University, Department of Computer and System Analysis, External Program Reviewer 2006
- Concordia University Research Chair Evaluation Committee, Montreal Canada 2005

**Journal Reviewer**

*IEEE Transactions on Software Engineering, ACM Transactions on Software Engineering and Methodologies, Journal of Empirical Software Engineering, Automated Software Engineering Journal, Journal of Software Maintenance and Evolution, Journal of Systems and Software, Software Quality Journal, IEEE Software, IEEE Computer*

**Textbook Reviewer**

- CRC Press, McGraw-Hill, Addison-Wesley Longman Publishers, Scott/Jones, Inc. Publishers, Kluwer Academic Publisher
- Henry, J., *Software Project Management A Real-World Guide to Success*, Addison-Wesley, 2004. Acknowledged as a reviewer on page xiv.

## Graduate Student Mentoring

### Doctoral Students Directed

14. Abrar Fawwaz AlAbed-AlHag, December 2015, Kent State University (defended August 2015)
  - *Applying Graph Mining Techniques to Solve Complex Software Engineering Problems*
  - Assistant Professor, Yarmouk University
13. Saleh Alnaeli, May 2015, Kent State University
  - *Empirically Examining the Roadblocks to the Automatic Parallelization and Analysis of Open Source Software Systems*
  - Assistant Professor, University of Wisconsin-Fox Valley
12. Gregory DeLozier, August 2014, Kent State University
  - *Feature Location Using Unit Test Coverage In An Agile Development Environment*
  - Domain Architect for Enterprise Software Tools, Progressive Inc., Cleveland Ohio
11. Abdulkareem Q. Alali, August 2014, Kent State University
  - *Improved Methods for Mining Software Repositories to Detect Evolutionary Couplings*
  - Programmer Analyst, NicheVision, Inc, Akron, Ohio
10. Omar Meqdadi, August 2013, Kent State University
  - *Understanding And Identifying Large-Scale Adaptive Changes From Version Histories*
  - Lecturer, University of Wisconsin-Platteville
9. Nouh Alhindawi, August 2013, Kent State University
  - *Supporting Source Code Comprehension During Software Evolution And Maintenance*
  - Assistant Professor, Jadara University, Jordan
8. Hakam Alomari, August 2012, Kent State University
  - *Supporting Software Engineering via Lightweight Static Program Slicing*
  - Assistant Professor, Miami University, Oxford Ohio
7. Natalia Dragan, December 2010, Kent State University
  - *The Emergent Laws of Method and Class Stereotypes in Object Oriented Software*
  - Assistant Professor NTT, Management and Information Systems, Kent State University
6. Andrew Sutton, August 2010, Kent State University
  - *Understanding and Maintaining C++ Generic Libraries*
  - Assistant Professor, University of Akron, Ohio
  - Postdoctoral Fellow, Texas A&M, Supervisor: Bjarne Stroustrup (2010 – 2013)
  - Awarded NSF Core Programs 2014
5. Maen Hammad, May 2010, Kent State University
  - *Supporting Code-Design Consistency During Software Evolution*
  - Assistant Professor, Hashemite University, Jordan
4. Bonita (Simoes) Sharif, May 2010, Kent State University
  - *Empirical Assessment of UML Class Diagram Layout Based on Architectural Importance*
  - Assistant Professor, Youngstown State University, Ohio
3. Huzefa Kagdi, August 2008, Kent State University
  - *Mining Software Repositories to Support Software Evolution*
  - Assistant Professor, Wichita State University, Wichita, Kansas
  - Awarded NSF Core Programs 2010
2. Michael L. Collard, August 2004, Kent State University
  - *Meta-Differencing: An Infrastructure for Source Code Difference Analysis*
  - Assistant Professor, University of Akron, Ohio
  - Awarded NSF CISE CRI 2013
1. Adrian Marcus, August 2003, Kent State University
  - *Semantic Driven Program Analysis*
  - Associate Professor, The University of Texas at Dallas
  - Awarded NSF CAREER 2009
  - Awarded “Best Ph.D. Dissertation Paper” at the 20<sup>th</sup> IEEE International Conference on Software Maintenance (ICSM’04), Chicago, Illinois, Sept. 11-14, 2004, pp. 469-473.

**Doctoral Students Directing (current)**

1. Nahla Abid, Completed Prospectus, Candidacy, & Preliminary Exams
2. Reem AlSuhaihani, Completed Preliminary Exams
3. Basma Alqadi, Completed Preliminary Exams
4. Brian Bartman, Completed Candidacy & Preliminary Exams
5. Michael Decker, Completed Candidacy & Preliminary Exams
6. Drew Guarnera, Completed Preliminary Exams
7. Christian Newman, Completed Candidacy & Preliminary Exams

**Doctoral Committee Member (current)**

1. Ning Ruan, Department of Computer Science, Kent State University, Advisor: Dr. R. Jin

**Doctoral Committee Member (completed)**

1. Mohammed Al Batineh, Department of Classical Language Studies, Kent State University, Graduated: 8/2015, Advisor: Dr. Francoise Massardier-Kenney
2. John Hoffman, Department of Mathematical Sciences, Kent State University, Graduated: 8/2014, Advisor: Dr. Yu Gang
3. Christopher D. Mellinger, Department of Classical Language Studies, Kent State University, Graduated: 5/2014, Advisor: Keiran Dunne, Gregory M. Shreve.
4. Theresa Benyo, Department of Physics, Kent State University, Graduated: 5/2013. Advisors: Dr. David Allender and Dr. Isaiah Blankson (NASA). *Graduate Faculty Representative and Moderator*
5. Jamal Alsakran, Department of Computer Science, Kent State University, Graduated 8/2012, Advisor: Dr. Y. Zhao
6. Nina Rytwinski, Department of Psychology, Kent State University, Graduated: 5/2010. Committee: Dr. Jocelyn Folk, Dr. David Fresco, Dr. Jeffrey Ciesla
7. Valentin David, Language Design Laboratory, Universitetet i Bergen, Bergen Norway, Dissertation Defense November 2009, Graduated 12/2009. Advisor: Dr. Magne Haveraaen. *External Opponent* with Dr. Bjarne Stroustrup
8. Saleh Al-shomrani, Department of Computer Science, Kent State University, Graduated: 12/2008, Advisor: Dr. P. Wang
9. Denys Poshyvanyk, Department of Computer Science, Wayne State University, Detroit MI, Graduated: 5/2008, Assistant Professor, College of William & Mary, Advisor: Dr. Andrian Marcus
10. Oleg Komogortsev, Department of Computer Science, Kent State University, Graduated 8/2007, Assistant Professor, Texas State University, Advisor: Dr. J. Khan
11. Congjun Yang, Department of Computer Science, University of Memphis, Graduated: 5/2001, FedEx, Advisor: Dr. K.I. Lin
12. Yuan Gao, Department of Computer Science, University of Memphis, Graduated: 5/2000, Advisor: Dr. G. Narasiman
13. German Hernandez, Department of Computer Science, University of Memphis, Graduated: 5/2000, Professor University of Columbia, Bogotá, Advisor: Dr. D. Dasgupta
14. Myles Bogner, Department of Computer Science, University of Memphis, Graduated: 12/1999, Advisor: Dr. S. Franklin
15. David Vu, Department of Computer Science, University of Memphis, Graduated: 12/1999, FedEx, Advisor: Dr. G. Das

**Masters Thesis Students Directing (current)**

1. None

**Masters Thesis Students Directed**

1. Reem AlSuhaihani, *Part-of-Speech Tagging of Source Code Identifiers Using Programming Language Context Versus Natural Language Context*, Kent State University, Graduated December 2015.
2. Christian Newman, *Normalizing-Refactorings: Simplifying the Construction of Source Code Transformations*, Kent State University, Graduated December 2013.
3. Brian Bartman, *srcQL: A Syntax-Aware Query Language for Exploring Source Code*, Kent State University, Graduated December 2013.
4. Daniel Mosora, *Mosaiccode: Supporting Software Evolution via Visual Exploration of Multidimensional Versioned Data*, Kent State University, Graduated December 2013.
5. Ryan Holeman, *Identifying Programming Idioms in C++ Generic Libraries*, Kent State University, Graduated December 2009.

6. Alice Lewis, *A Case Study for a Lightweight Impact Analysis Tool*, Kent State University, Graduated May 2009, Current Position: Goodyear
7. Abdulkareem Q. Alali, *An Empirical Characterization of Commits In Software Repositories*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated May 2008.
8. Shehnaaz Yusuf, *Assessing the Comprehension of UML Class Diagrams via Eye Tracking*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated December 2007.
9. Natalia Dragan, *Method Stereotypes and their Automatic Identification*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated December 2005.
10. Andrew Sutton, *Accurately Reverse Engineering UML Class Models from C++*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated August 2005.
11. Louis Feng, *Source Viewer 3D – An Application Framework for Software Visualization*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated August 2003. Current Position: Doctoral Program in Graphics at UC-Davis
12. Huzefa Kagdi, *Using an Island Grammar Approach for Lightweight Parsing: A C++ to srcML Translator*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated May 2003.
13. Greg Dunlap, *Visualizing Object Oriented Software in a Virtual Reality Environment*, M.S. Thesis, The University of Memphis, Memphis, TN, Graduated December, 2001.
14. Bradford Smith, *Combining Gene Splicing and Genetic Algorithms*, M.S. Thesis, The University of Memphis, Memphis, TN, Graduated May 1999.

#### **Masters Students Directed (non-Thesis)**

1. Anita Howald, University of Memphis, Graduated: 5/2002, Woodson-Tenent Labs
2. Elizabeth Brooks, University of Memphis, Graduated: 12/2001
3. Andrian Marcus, University of Memphis, Graduated: 5/2001
4. Tony Colston, University of Memphis, Graduated: 12/2000, Buckman Labs
5. Zhijun Liu, University of Memphis, Graduated: 8/2000, Motorola
6. Ravi Seetharam, University of Memphis, Graduated: 12/1999, FedEx
7. Naveen Valluri, University of Memphis, Graduated: 5/1999, Microsoft.
8. Sudarshan Dharamapuri, University of Memphis, Graduated: 5/1999

#### **Masters Thesis Committee Member**

- Amanda Lindsay, Kent State University, Graduated 5/2014
- YuFan Liu, Kent State University, Graduated 5/2013
- Mayank Ladoia, Kent State University, Graduated: 8/2012
- Scott McCallen, Kent State University, Graduated: 12/2007
- David Watson, Kent State University, Graduated: 12/2004
- Irina Makkaveeva, University of Memphis, Graduated: 8/2000
- Sudipkumar Karnavat, University of Memphis, Graduated: 12/1998, Oracle Inc.
- Myles Bogner, University of Memphis, Graduated: 5/1998
- Elko Tchernev, University of Memphis, Graduated: 5/1998,
- Yuan Gao, University of Memphis, Graduated: 5/1998, IBM

#### **Visiting Scholars Hosted**

- Tie Feng, Jilin University China, 10/2005-9/2006, Supported by the China Scholarship Council
- Shu-Guang Zhang, Wuhan University, China, 01/2007-12/2007, Supported by the China Scholarship Council

## **Undergraduate Student Mentoring**

### **Honors Thesis (undergraduate) Directed**

- Daniel Mosora, Kent State University, Graduated: 5/2012.
- Dylan Shearer, Kent State University, Graduated: 5/2007 – *co-directed with Dr. M. Collard (lead)*

### **Students Directed in NSF Research Experiences for Undergraduates (REU)**

- Patrica Jordan, Kent State University, Spring 2017.
- PJ Leydon, Kent State University, Summer 2016.
- Kyle Swartz, Kent State University, Spring 2016.
- Tessandra Sage, Kent State University, Fall 2014.
- Daniel Mosora, Kent State University, Summer 2011.
- Christian Newman, Kent State University, Summer 2010.

### **Students Directed in Undergraduate Independent Study or Research**

#### **Kent State University**

- Vlas Zyrianov, Spring 2017
- PJ Leyden, Fall 2016, Spring 2017
- Thomas Taylor, Summer 2015
- Kyle Swartz, Spring 2015
- Ben Freeman, Spring 2015
- Tessandra Sage, Fall 2014, Spring 2015
- Yasmine Sadid, Fall 2012
- David Steinberg, Spring 2012
- Thomas Mullaly, Spring 2010
- Richard Hildebrand, Spring 2010
- Brian Bartman, Fall 2009
- Michael Lopez, Fall 2009
- Matthew Suhay, Summer 2009
- Edward Morrison, Spring 2009
- Christopher Tuttle, Spring 2009
- Rodney Johnston, Fall 2006
- Kyle Stemen, Fall 2004
- James Brundage, Fall 2004
- Howard Bandy, Spring 2003
- Robert Beck, Fall 2002

#### **The University of Memphis**

- Corey Donahoe, Spring 2003
- Leslie Saputra, Fall 2001
- Greg Dunlap, Spring 2000
- Michael Muellenmeister, Spring 2000
- Anastasia Nix, Spring 1999
- Scott Brown, Spring 1999
- George Eivazzadeh, Summer 1998

#### **Wayne State University**

- William L. Kilpatrick, Spring 1998
- Christopher Gallivan, Spring 1997



## **Teaching**

### **Teaching Interests**

Introductory Programming (CS I & CS II) and Software Engineering (graduate and undergraduate)

### **Teaching Statement/Philosophy**

The philosophies and methods of teaching must always evolve as new experiences are realized. This implies continual process improvement. The basis of this process is focused on the following:

- 1) Difficulty of the material;
- 2) Academic standards;
- 3) Fairness to the student;
- 4) Enjoyable learning.

Enthusiasm on the part of the instructor is an excellent way to make a course (and learning) more enjoyable for the student. Past experiences, both in teaching and taking courses have proven this to be an excellent method in motivating and keeping the attention of students.

Lecture emphasizes that subjects covered in individual courses are tightly coupled with the entire curriculum. All too often, students are left without an understanding of how separate topics fit together and how they relate to the work place (or research). A broad knowledge of computer science coupled with industry experience is utilized to better explain these issues. However, a number of topics are very hard for students to master. Repetitive exposure and explanation, along with varying perspectives and analogies are systematically used to convey an understanding of the material. A question/answer dialog is consistently and constantly made available to the students to gauge the overall level of understanding of the students and pace of the course.

One of the responsibilities of college professor is to uphold the standards of the discipline and society. While it has been said that the responsibility of the teacher is to the student, the foremost responsibility of the teacher is to educate the student to function in society and the field to an adequate degree of competency. To promote fairness, all expected requirements are presented at the beginning of any course. The level of the professor's expectations is presented up front, and repeatedly throughout the term. All reference material is made available and the importance of each reference is well defined. Given a well defined set of course objectives, along with the support to achieve those objectives, the student has a level playing field and can be fairly assessed.

## Undergraduate Teaching Experience

Course Title	Term Taught	Institution
<b>Undergraduate Upper Division</b>		
Capstone Project (CS49901)	Fall 04	KSU
Software Engineering (U/G) (CS5/43901)	Spr 10, Spr 03, Spr 02	KSU
Software Development (U/G) (COMP6/4081)	Spr 99, Spr 98	Memphis
Data Communications (U/G) (COMP6/4310)	Fall 97	Memphis
Operating Systems (U/G) (COMP6/4270)	Fall 98, Fall 97	Memphis
Software Engineering (CSC411)	Sum 97, Win 97, Sum 96	WSU
Operating Systems (CSC442)	Win 97, Fall 96	WSU
Theory of Computation (CSC450)	Sum 97, Win 97, Fall 96, Sum 96, Win 96, Fall 95	WSU
Programming Languages (U/G) (CSC520)	Fall 92	WSU
<b>Undergraduate Lower Division</b>		
Computer Science II: (C++) Data Structures & Abstraction (CS23001/33001)	Fall 16, Spr 16, Fall 15, Spr 15, Fall 14, Spr 14, Fall 13, Spr 13, Fall 12, Spr 12, Fall 11, Spr 11, Fall 10, Spr 10, Fall 09, Fall 08, Spr 08, Spr 07, Fall 02, Fall 01	KSU
Computer Science II (C++) (COMP2150)	Spr 01, Fall 00, Spr 00, Fall 99	Memphis
Computer Science II (CSC211/203)	Fall 96 (C++), Fall 95 (C++), Win 90 (Pascal), Fall 89 (Pascal), Sum 89 (Pascal), Fall 88 (Pascal)	WSU
Computer Science I (CSC102/110)	Win 96 (C++), Win 97(C++), Win 93 (C), Win 89 (Pascal)	WSU
Computer Literacy (COMP1200)	Spr 98	Memphis
Forth Programming Language (CSC286)	Fall 86	UM-Flint
Lisp Programming Language (CSC286)	Win 87	UM-Flint
Introduction to FORTRAN (CSC274)	Sum 87, Win 87, Fall 86	UM-Flint

## Graduate Teaching Experience

Course Title	Term Taught	Institution
<b>Graduate</b>		
Software Engineering Methods (CS7/63901)	Spr 13, Fall 07, Fall 06, Fall 05, Fall 03, Fall 02	KSU
Software Evolution (CS7/63902)	Spr 16, Spr 12, Spr 04	KSU
Software Visualization (CS7/63903)	Spr 05, Spr 03	KSU
ST: Text Analysis in Software Eng (CS6/79995)	Spr 14	KSU
ST: Program Comprehension (CS6/79995)	Spr 15, Spr 08	KSU
Masters & Doctoral Seminar (CS6/89191)	Spr 06, Sum 04	KSU
Software Process Models (COMP8/7081)	Fall 00, Fall 99	Memphis
Software Development (COMP8/7083)	Spr 00	Memphis
ST: Psychology of Programming (COMP8/7991)	Spr 01	Memphis
ST: Software Testing (COMP8/7998)	Spr 99	Memphis
ST: Software Reuse (COMP8/7992)	Fall 98	Memphis
<b>Other</b>		
OO Programming and Adv. C++ (6 weeks)	Sum 97	Brother Inc.
LISP/CLOS Programming (1 week intensive)	Sept. 95	Ford Motor Co.

## Course & Curriculum Development

### Kent State University

#### New Course Development & Teaching

- CS6/79995 ST: Text Analysis in Software Engineering – 2013/014. Developed content and description for the course as part of a Software Engineering major concentration within our graduate curriculum. Offered as special topics during Spring 2014. <http://www.cs.kent.edu/~jmaletic/cs69995-TAinSE/>
- CS23001 Laboratory – 2011/12. Developed materials, topics, and assignments for new laboratory component of the course for first offering in Fall 2011. Developed all materials, topics, and assignments for labs. Revised lecture materials to reflect lab component. [www.cs.kent.edu/~jmaletic/CS23001/](http://www.cs.kent.edu/~jmaletic/CS23001/)
- CS6/79995 ST: Program Comprehension – 2007/08. Developed content and description for the course as part of a Software Engineering major concentration within our graduate curriculum. Offered as special topics during Spring 2008. [www.cs.kent.edu/~jmaletic/Prog-Comp/](http://www.cs.kent.edu/~jmaletic/Prog-Comp/)
- CS49901 Capstone – 2004. Developed content and description, in conjunction with CC, for this new course as a part of the revised undergraduate curriculum. Taught first offering of course in Fall 2004 - see [www.cs.kent.edu/~jmaletic/Capstone/](http://www.cs.kent.edu/~jmaletic/Capstone/)
- CS6/73903 Software Evolution – 2003/4. Developed content and description for this course as a part of a Software Engineering Major Concentration within our graduate curriculum. Offered course as a Special Topics during Spring 2004. [www.cs.kent.edu/~jmaletic/cs63902/](http://www.cs.kent.edu/~jmaletic/cs63902/)
- CS6/73902 Software Visualization – 2002/03. Developed content and description for this course as a part of a Software Engineering Major Concentration within our graduate curriculum. Offered course as a Special Topics during Spring 2003. [www.cs.kent.edu/~jmaletic/cs63903/](http://www.cs.kent.edu/~jmaletic/cs63903/)

#### Course Development & Revision

- CS23001 CS II: Data Structures & Abstraction – Spring 2014. Introduced and trialed the use of a Question & Answer system (segfault.cs.kent.edu) into the course to support student questions for projects and course materials. Continued use of Q&A system in Fall 2014 using Piazza.

- CS23001 CS II: Data Structures & Abstraction – Fall 2011. Revised lecture materials to reflect lab component. Integrated concepts of test driven development (TDD) into CS II: Data Structures & Abstraction lecture, lab, and assignments. A software framework and build facility was developed and is used by students to test their programming projects in an iterative process. A set of test oracles was developed to assist students for one of the projects. Students learn to develop test cases prior to solving problems. This aligns with the new ACM/IEEE recommendations. [www.cs.kent.edu/~jmaletic/CS23001/](http://www.cs.kent.edu/~jmaletic/CS23001/)
- CS4/53901 Software Engineering – Spring 03. A complete revision of the course was made including a new catalog description. New textbooks were examined and a detailed syllabus developed so the course better fits into the new undergraduate catalog. The course now is focused on object oriented design and programming. This is a critical topic that can only be brushed upon in the prerequisites. The course went from an elective to a required course in the curriculum. [www.cs.kent.edu/~jmaletic/cs43901/](http://www.cs.kent.edu/~jmaletic/cs43901/)
- CS6/73901 Software Engineering Methodologies (previously Advanced Software Engineering) – Fall 2002. A complete revision of this course was made including new name and catalog description. [www.cs.kent.edu/~jmaletic/cs63901/](http://www.cs.kent.edu/~jmaletic/cs63901/)
- CS33001 Data Structures – Fall 2002. The content of the core course was revised, standardized, and aligned with its prerequisites. A new textbook was selected under my guidance that better supports our program and students. Additionally, a course web page was developed that detailed the course and assignments and is intended as a model/resource for others to teach the course. Changes to the course were made in conjunction with the Curriculum Committee and others who teach it regularly.
- CS23022 Discrete Structures for Computer Science – Fall 2002. Worked with Dr. Dragan, Dr. Lu, and CC to develop a new course to replace CS/MATH31011 Discrete Mathematics. Course content and description developed.
- CS23021 Introduction to Object Oriented Programming – Spring 2001. The content of the course was revised and standardized to fit with its prerequisites and the follow on course, Data Structures. Changes to the course were made in conjunction with the Curriculum Committee and others who teach it regularly.

#### **Undergraduate Curriculum Development**

- An integral member of the Curriculum Committee during the 2001/02 academic year, a substantial re-design of the Computer Science undergraduate curriculum was made. Changes were made to align the Department's curriculum with those of the 2001 ACM Computer Science Curriculum Guidelines. These changes included the following new course:
  - CS49901 Capstone – developed content and description for this course as a part of the new undergraduate curriculum. This was done in conjunction with the Curriculum Committee.

#### **Graduate Curriculum Development**

- Chair of Joint Committee (Graduate Studies and Curriculum Committees) to Examine the Graduate Curriculum for 2002/03. This committee assessed the current state of the Department's graduate curriculum and discussed problem and possible solutions about the program with faculty and graduate students. The committee developed and proposed a curriculum that represents a substantial departure from the old program. The new curriculum focuses on the support of all (and future) departmental research initiatives and facilitates the production of high quality, knowledgeable, graduate students.
- CS69198 Masters Seminar – developed content and description for this course as a part of the new graduate curriculum. This was done in conjunction with the Curriculum and Graduate Studies Committees.
- CS89198 Doctoral Seminar – developed content and description for this course as a part of the new graduate curriculum. This was done in conjunction with the Curriculum and Graduate Studies Committees.

#### **The University of Memphis**

##### **Course and Curriculum Development**

- Three new graduate courses in Software Engineering were developed and implemented over 1999-2001:
  - *COMP7/8085 Software Comprehension*. Description: Cognitive and mental models of how people learn to program and how people understand existing large software systems are covered. Software environments to assist software developers build, maintain, and evolve software systems are investigated. How visualization of software system aids in program comprehension is covered.
  - *COMP7/8081 Software Development Process Models*. Description: Development processes; maturity models; process improvement, metrics (process and product), estimation, management, maintenance; quality assurance; personal and team software process models, UML.
  - *COMP7/8083 Software Development Methodologies*. Description: Development methods for the support of process models; advanced object-oriented analysis and design methods; reuse, testing, adaptive software, software comprehension, understanding and environments.

- Developed and offered the following Special topics courses:
  - *COMP7/8992 Software Reuse.*
  - *COMP7/8998 Software Testing.*
  - *COMP7/8991 Psychology of Programming*
- New Curriculum Development
  - *Masters of Science in Electronic Commerce.* The University of Memphis. Member of the joint committee between College of Arts and Science and College of Business. Program accepted Fall 2000.
  - *Masters of Science in Software Development.* The University of Memphis. Development of initial proposal.

## Departmental and University Service

### Kent State University

#### 2016/2017

- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D
- Advisor for Kent State University Linux User Group-KLUG (KSU student organization)
- Advisor for Computer Science Graduate Student Association-CSGSA (KSU student organization)
- Faculty Professional Improvement Leave (**FPIL**) Spring 2017

#### 2015/2016

- Faculty Advisory Committee
- Ph.D. Preliminary Examination Committee
- Graduate Faculty – Full, Level 4D
- Computer Science Chair Review Committee
- Advisor for Kent State University Linux User Group-KLUG (KSU student organization)
- Advisor for Computer Science Graduate Student Association-CSGSA (KSU student organization)
- Judge for the KSU Graduate Research Symposium April, 2016

#### 2014/2015

- Graduate Studies Committee
- Ph.D. Preliminary Examination Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D
- Advisor for Kent State University Linux User Group-KLUG (KSU student organization)
- Advisor for Computer Science Graduate Student Association-CSGSA (KSU student organization)
- Judge for the KSU Graduate Research Symposium April 3, 2015

#### 2013/2014

- Ph.D. Preliminary Examination Committee
- Assessment Committee
- Faculty Advisory Committee
- Advisor for Computer Science Graduate Student Association-CSGSA (KSU student organization)
- Graduate Faculty – Full, Level 4D

#### 2012/2013

- Graduate Studies Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

#### 2011/2012

- Curriculum Committee
- Faculty Advisory Committee
- Ph.D. Preliminary Examination Committee
- Graduate Faculty – Full, Level 4D

#### 2010/2011

- Interim Chair (7/1/2010 – 11/15/2010)
- Curriculum Committee (Spring)
- Faculty Advisory Committee (Spring)
- Ph.D. Preliminary Examination Committee
- Graduate Faculty – Full, Level 4D

#### 2009/2010

- University Advisory Committee for Academic Assessment (ACAA)
- Graduate Studies Committee
- Faculty Advisory Committee
- Ph.D. Preliminary Examination Committee
- Graduate Faculty – Full, Level 4D

#### 2008/2009

- University Advisory Committee for Academic Assessment (ACAA)
- Kent State University Press Editorial Board
- OBR Budget Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

- Faculty Professional Improvement Leave (**FPIL**) Spring 2009

#### **2007/2008**

- University Advisory Committee for Academic Assessment (ACAA)
- Kent State University Press Editorial Board (starting Spring 2008)
- University Research Incentive/Challenge Proposal Reviewer
- Faculty Advisor Ohio Graduate Student Symposium (OGSS) 2008
- Curriculum Committee
- Ph.D. Preliminary Examination Committee
- Faculty Advisory Committee
- Invited and arranged for Dr. Andrian Marcus (Wayne State University) to give a CS Colloquium
- Graduate Faculty – Full, Level 4D

#### **2006/2007**

- URC AY/S Proposal Review Panel
- Curriculum Committee
- Ph.D. Preliminary Examination Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

#### **2005/2006**

- College of Arts and Sciences Curriculum Committee
- Chair of Curriculum Committee (*Computer Science Curriculum Coordinator*)
- Ph.D. Preliminary Examination Committee
- Faculty Search Committee
- Chair Search Committee
- Invited and arranged for Prof. Vaclav Rajlich (Wayne State University) to give a CS Colloquium
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

#### **2004/2005**

- College of Arts and Sciences Curriculum Committee
- URC AY/S Proposal Review Panel
- Chair of Curriculum Committee (*Computer Science Curriculum Coordinator*)
- Developed program assessment plans for B.S., M.S., M.A., and Ph.D. computer science programs
- Ph.D. Preliminary Examination Committee
- Student Computing Environment
- Faculty Advisory Committee
- Invited and arranged for Dr. Atanas Rountev (Ohio State University) to give a CS Colloquium
- Graduate Faculty – Full, Level 4D

#### **2003/2004**

- College of Arts and Sciences Curriculum Committee
- Chair of Curriculum Committee (*Computer Science Curriculum Coordinator*)
- Graduate Studies Committee
- Ph.D. Preliminary Examination Committee (Spring '04)
- Student Computing Environment
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

#### **2002/2003**

- Departmental Merit Committee
- Chair of the Joint GSC/CC Committee to Examine Graduate Curriculum. Made substantial contributions to the Department by organizing and leading the development of a completely new graduate curriculum. This included new course requirements in the Master's and Doctoral programs, a new Doctoral preliminary examination, new Doctoral minor and major concentrations, and Master's/Doctoral Seminar course. Worked jointly with CC and GSC to develop the program catalog description, rationale for changing the program, and description of the new courses (Seminars).
- Graduate Studies Committee
- OBR Budget Committee
- Ph.D. Qualifying Exam Committee – Programming Languages (Fall '02, Spring '03)
- Faculty Advisory Committee
- Invited and arranged for Dr. Lee White (Case Western University) to give a CS Colloquium
- Invited and arranged for Dr. Kurt Stirewalt (Michigan State University) to give a CS Colloquium
- Graduate Faculty – Full, Level 4

## **2001/2002**

- Curriculum Committee. An active participant and made substantial contributions to the Departments new undergraduate curriculum while serving on this committee. Much of these efforts are reflected in the upper division course organization, makeup of the Discrete Structures course, and makeup/definition of the new Capstone Project course.
- OBR Budget Committee
- Ph.D. Qualifying Exam Committee – Compilers (Fall '01)
- Faculty Advisory Committee
- Invited and arranged for Dr. Ethan Munson (The University of Wisconsin-Milwaukee) to give a CS Colloquium
- Graduate Faculty – Full, Level 4

## **The University of Memphis**

### **2000/2001**

- Technology Advisory Committee [Chair]
- Computer Science Ph.D. Qualifier Exam Committee [Chair]
- Faculty Advisor for Student ACM Chapter
- College of A&S Technology Advisory Committee
- College of A&S Computer Engineering/Computer Science Liaison Committee
- Graduate Faculty – Full

### **1999/2000**

- Technology Advisory Committee [Chair]
- Computer Science Laboratory (CS1, CS2) [Chair] – oversaw multiple sections
- Computer Science Ph.D. Qualifier Exam Committee [Chair]
- Faculty Advisor for Student ACM Chapter
- College of A&S Technology Advisory Committee
- College of A&S Computer Engineering/Computer Science Liaison Committee
- College of A&S E-Commerce Degree Program Development Committee
- Graduate Faculty – Full

### **1998/1999**

- Computer Science Ph.D. Qualifier Exam Committee [Chair] – developed new exam format and definition
- CS Graduate Assistantship Committee (Spring term) [Chair]
- Computer Science Laboratory (CS1, CS2) [Chair]– oversaw multiple sections
- Computer Systems Advisory Committee
- Library Committee
- College of A&S E-Commerce Degree Program Development Committee
- Graduate Faculty – Full

### **1997/1998**

- Computer Science Laboratory (CS1, CS2) [Chair] – oversaw multiple sections
- Computer Systems Advisory Committee
- Library Committee
- College of A&S E-Commerce Degree Program Development Committee
- Graduate Faculty – Associate

## **Wayne State University**

### **1996/1997**

- Undergraduate Committee

## **Wayne State University (as Graduate Student)**

- Graduate Student Representative (elected), 9/90-8/91, 9/92-8/94
- Chair Search Committee Student Representative (elected), 9/90-8/91

## **The University of Michigan – Flint (as Undergraduate)**

- Treasure ACM Student Chapter (elected), 9/83-9/85