

# Jeffrey G. Gray

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## Education

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- VANDERBILT UNIVERSITY** *Nashville, TN*
- Ph.D. in Computer Science (GPA: 3.96)* *May 2002*  
Major Field of Study: Software Engineering  
Thesis:  
*Aspect-Oriented Domain-Specific Modeling:  
A Generative Approach Using a Metaweaver Framework*
- Thesis Advisor: Dr. Stephen Schach  
Committee Members: Dr. Janos Sztipanovits, Dr. Gábor Karsai,  
Dr. Larry Dowdy, Dr. Mike Fitzpatrick, Dr. Fritz Barnes
- WEST VIRGINIA UNIVERSITY** *Morgantown, WV*
- Master of Science in Computer Science (GPA: 3.75)* *Summer 1993*  
Thesis:  
*The Role of Reuse in Introducing Software Engineering Principles  
in a Computer Science Second Course*
- Thesis Advisor: Dr. Murali Sitaraman  
Committee Members: Dr. Frances Van Scoy and Dr. Doug Harms
- WEST VIRGINIA UNIVERSITY** *Morgantown, WV*
- Bachelor of Science in Computer Science (Honors Program)* *Summer 1991*  
Final Undergraduate GPA: 3.86 (*summa cum laude*)
- THE LINSLEY SCHOOL (since 1814)** *Wheeling, WV*
- High School Diploma* *June 1988*

## Academic Positions

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- October 2007-  
Present*
- UNIVERSITY OF ALABAMA AT BIRMINGHAM**    **Dept. of Computer and Information Sciences**  
Associate Professor (early tenure)  
*Birmingham, AL*
- August 2002-  
September 2007*
- UNIVERSITY OF ALABAMA AT BIRMINGHAM**    **Dept. of Computer and Information Sciences**  
Assistant Professor  
*Birmingham, AL*

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**Funding***Awarded  
Grants***NSF ITTEST**

Title: *UAB-Birmingham Consortium for Advanced Education in Computer Science*  
Amount: \$1,080,000      Period: 1/01/08 through 12/31/10  
Role: Co-PI

**NSF CPA**

Title: *A Transformational Approach to Clone Refactoring*  
Amount: \$239,953      Period: 8/15/07 through 8/14/10  
Role: PI

**NSF CAREER**

Title: *Foundational Principles to Support Evolution in Domain-Specific Modeling*  
Amount: \$400,000      Period: 4/15/07 through 4/14/12  
Role: PI

**NSF (In collaboration with Vanderbilt University and University of Connecticut)**

Title: *A Model-Driven Performance Analysis Framework for Distributed,  
Performance-Sensitive Software Systems*  
Amount: \$377,000 (UAB portion is \$200,000)      Period: 9/1/05 through 8/31/07  
Role: PI at UAB (with Swapna Gokhale – UConn, Aniruddha Gokhale - Vanderbilt)

**IBM Eclipse Innovation Grant**

Title: *Grammar-Driven Domain-Specific Language Tools*  
Amount: \$15,000      Period: 3/1/05 through 2/28/06

**DARPA PCES 2 (In collaboration with Vanderbilt University)**

Title: *Modeling and Generative Tools for Distributed Real-time and Embedded Systems*  
Amount: \$1,177,373 (UAB portion is \$207,933)      Period: 4/03 through 3/05  
Role: PI at UAB (Aniruddha Gokhale is primary PI from Vanderbilt)

**UAB Faculty Development Grant**

Title: *Opportunities for New Lines of Research and Community Outreach within the  
Software Composition and Modeling Laboratory*  
Amount: \$9,846      Period: 9/04 through 8/05

**CRA/CREW: CRA Collaborative Research Environment for Women**

Title: *Model-Driven Synthesis of Embedded Robot Navigation Systems*  
Amount: \$2,200      Period: 9/03 through 5/04  
Role: Honors research advisor to Bina Shah and Rachael Dennison

**Mervyn H. Sterne Library Grant**

Title: *Applying Software Engineering to a Series of Special Topics CIS Courses*  
Amount: \$2,000      Awarded: April 2003

**DARPA PCES (Subcontract from Vanderbilt University)**

Title: *Constraint-Specification Aspect Weaver (C-SAW)*  
Amount: \$51,009      Period: 12/02 through 5/03  
Role: PI at UAB (Ted Bapty primary PI from Vanderbilt)

**DARPA PCES**

Title: *Constraint-based Embedded Systems*  
Amount: \$1,249,590.00      Period: 6/00 through 6/04  
Role: As a graduate student, I assisted in writing the DARPA PCES grant proposal that was awarded to ISIS. My Ph.D. dissertation came from work on this project.

## Publications

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**Please note: All publications are available at <http://www.cis.uab.edu/gray>**

### *Refereed Journals*

Under Review: Suman Roychoudhury, Jeff Gray, Jing Zhang, Purushotham Bangalore, and Anthony Skjellum, "A Program Transformation Technique to Support Aspect-Oriented Programming within C++ Templates," submitted to the *International Journal of Computer Science and Software Technology*.

Under Review: Suman Roychoudhury, Jeff Gray, and Frédéric Jouault, "A Model-Driven Framework for Aspect Weaver Construction," submitted to *Transactions on Aspect-Oriented Software Development*.

Jules White, James Hill, Sumant Tambe, Aniruddha Gokhale, Doug Schmidt, and Jeff Gray, "Improving Domain-Specific Language Reuse through Software Product Line Configuration Techniques," *IEEE Software* (Special Issue on Domain-Specific Languages and Modeling – Jonathan Sprinkle, Marjan Mernik, Juha-Pekka Tolvanen, and Diomidis Spinellis, eds.), 2009.

Xiaoqing Wu, Barrett Bryant, Jeff Gray, and Marjan Mernik, "Component-Based LR Parsing," *Computer Languages, Systems, and Structures*, 2009.

Jules White, Jeff Gray, and Doug Schmidt, "Constraint-Based Model Weaving," *Transactions on Aspect-Oriented Software Development* (Special Issue on Aspects and MDE - Robert France and Jean-Marc Jezequel, eds.), 2009.

Damijan Rebernak, Marjan Mernik, Hui Wu, and Jeff Gray, "Domain-Specific Aspect Languages for Modularizing Crosscutting Concerns in Grammars," *IET Software* (Special Issue on Domain-Specific Aspect Languages), 2009.

Robert Tairas and Jeff Gray, "An Information Retrieval Process to Aid in the Analysis of Code Clones," *Empirical Software Engineering* (Special Issue on Information Retrieval for Program Comprehension – Tim Menzies and Letha Etkorn, eds.), vol. 14, no.1, February 2009, pp. 33-56.

Suman Roychoudhury, Jeff Gray, Jing Zhang, Purushotham Bangalore, and Anthony Skjellum, "Modularizing Scientific Libraries with Aspect-Oriented and Generative Programming Techniques," *Acta Electrotechnica et Informatica*, 2009.

Yuehua Lin, Jeff Gray, Jing Zhang, Steve Nordstrom, Aniruddha Gokhale, Sandeep Neema, and Swapna Gokhale, "Model Replication: Transformations to Address Model Scalability," *Software: Practice and Experience*, vol. 38, no. 14, November 2008, pp. 1475-1497.

Hui Wu, Jeff Gray, and Marjan Mernik, "Grammar-Driven Generation of Domain-Specific Language Testing Tools," *Software: Practice and Experience*, vol. 38, no. 10, August 2008, pp. 1073-1103.

Faizan Javed, Marjan Mernik, Jeff Gray, and Barrett Bryant, "MARS: A Metamodel Recovery System using Grammar Inference," *Journal of Information and Software Technology*, vol. 50, nos. 9/10, July 2008, pp. 948-968.

Faizan Javed, Marjan Mernik, Jeff Gray, Jing Zhang, Barrett Bryant, and Suman Roychoudhury, "Using a Program Transformation Engine to Infer Types in a Metamodel Recovery System," *Acta Electrotechnica et Informatica*, vol. 8, no. 1, January-March 2008, pp. 3-10.

Jing Zhang, Jeff Gray, Yuehua Lin, and Robert Tairas, "Aspect Mining from a Modeling Perspective," *International Journal of Computer Applications in Technology* (Special Issue on Concern-Oriented Software - Hongji Yang, William Chu, and Jianjun Zhao, eds.), vol. 31, nos. 1/2, January 2008, pp. 74-82.

Alfonso Pierantonio, Antonio Vallecillo, Bran Selic, and Jeff Gray, "Preface: Special Issue on Model Transformation," *Science of Computer Programming*, vol. 68, no. 3, October 2007, pg. 111-113.

Yuehua Lin, Jeff Gray, and Frédéric Jouault, "DSMDiff: A Differentiation Tool for Domain-Specific Models," *European Journal of Information Systems* (Special Issue on Model-Driven Systems Development – Mark Lycett, Esperanza Marcos and Veda Storey), vol. 16, no. 4, August 2007, pp. 349-361.

Dimple Kaul, Arundhati Kogekar, Aniruddha Gokhale, Jeff Gray, and Swapna Gokhale, "POSAML: A Visual Modeling Framework for Middleware Provisioning," *Journal of Visual Languages and Computing* (Special Issue on Visual Interactions in Software Artifacts – Guido Wirtz and Kang Zhang, eds.), vol. 18, no. 4, August 2007, pp. 359-377.

Upsorn Praphamontripong, Swapna Gokhale, Aniruddha Gokhale, and Jeff Gray, "An Analytical Approach to Performance Analysis of an Asynchronous Web Server," *Simulation: Transactions of the Society for Modeling and Simulation*, vol. 83, no. 8, August 2007, pp. 571-586.

Jing Zhang, Thomas Cottenier, Aswin van den Berg and Jeff Gray, "Aspect Composition in the Motorola Aspect-Oriented Modeling Weaver," *Journal of Object Technology* (Special Issue on Aspect-Oriented Modeling), vol. 6, no. 7, August 2007, pp. 89-108.

Rajesh Sudarsan and Jeff Gray, "Meta-Model Search: Using XPath to Search Domain-Specific Models," *Journal of Research and Practice in Information Technology* (Special Issue on Software Engineering - Hassan Reza and Emanuel Grant, eds.), vol. 38, no. 4, November 2006, pp. 337-351.

Francisco Hernandez, Purushotham Bangalore, Jeff Gray, Zhijie Guan, and Kevin Reilly, "GAUGE: Grid Automation and Generative Environment," *Concurrency and Computation: Practice and Experience* (Special Issue on Grid Workflow - Geoffrey Fox and Dennis Gannon, eds.), vol. 18, no. 10, August 2006, pp. 1293-1316.

Zhijie Guan, Francisco Hernandez, Purushotham Bangalore, Jeff Gray, Anthony Skjellum, Vijay Velusamy, and Yin Liu, "Grid-Flow: A Grid-Enabled Scientific Workflow System with a Petri Net-Based Interface," *Concurrency and Computation: Practice and Experience* (Special Issue on Grid Workflow - Geoffrey Fox and Dennis Gannon, eds.), vol. 18, no. 10, August 2006, pp. 1115-1140.

Krishnakumar Balasubramanian, Aniruddha Gokhale, Yuehua Lin, Jing Zhang, and Jeff Gray, "Weaving Deployment Aspects into Domain-Specific Models," *International Journal of Software Engineering and Knowledge Engineering* (Special Issue on Aspect-Oriented Modeling - Eric Wong and Kendra Cooper, eds.), June 2006, vol. 16, no. 3, pp. 403-424.

Jeff Gray, Yuehua Lin, and Jing Zhang, "Automating Change Evolution in Model-Driven Engineering," *IEEE Computer* (Special Issue on Model-Driven Engineering - Doug Schmidt, ed.), vol. 39, no. 2, February 2006, pp. 51-58.

Xiaoqing Wu, Barrett Bryant, Jeff Gray, and Marjan Mernik, "Applying Object-Oriented and Aspect-Oriented in Teaching Domain-Specific Language Implementation," *Journal of Computing Sciences in Colleges*, vol. 21, no. 2, December 2005, pp. 335-340.

Pedro Rangel Henriques, Maria Joao Varanda Pereira, Marjan Mernik, Mitja Lenic, Jeff Gray, and Hui Wu, "Automatic Generation of Language-based Tools using LISA," *IEE Proceedings – Software*, April 2005, pp. 54-69.

Jeff Gray, "A Java-based Approach for Teaching Principles of Adaptive and Evolvable Software," *Science of Computer Programming* (Special Issue on Practice and Experience with Java in Education - Q.H. Mahmoud, ed.), vol. 53, no. 1, October 2004, pp. 51-69.

Jeff Gray, Matti Rossi, and Juha-Pekka Tolvanen, "Preface: Special Issue on Domain-Specific Modeling," *Journal of Visual Languages and Computing*, vol. 15, no. 3-4, June/August 2004, pp. 207-209.

Gábor Karsai, Miklos Maroti, Ákos Lédeczi, Jeff Gray, and Janos Sztipanovits, "Composition and Cloning in Modeling and Meta-Modeling," *IEEE Transactions on Control System Technology* (Special Issue on Computer Automated Multi-Paradigm Modeling - Pieter Mosterman, ed.), vol. 12, no. 2, March 2004, pp. 263-278.  
**(Alabama IEEE "Best Paper of 2004" Award - 3<sup>rd</sup> place)**

Jeff Gray, Ted Bapty, Sandeep Neema, and James Tuck, "Handling Crosscutting Constraints in Domain-Specific Modeling," *Communications of the ACM* (Special Issue on Aspect-Oriented Programming - Tzilla Elrad, Robert Filman, and Atef Bader, eds.), October 2001, pp. 87-93.

#### *Book Chapters*

Jeff Gray, Sandeep Neema, Jing Zhang, Yuehua Lin, Ted Bapty, Aniruddha Gokhale, and Douglas C. Schmidt, "Concern Separation for Adaptive QoS Modeling in Distributed Real-Time Embedded Systems," *Behavioral Modeling for Embedded Systems and Technologies: Applications for Design and Implementation*, (Luis Gomes and Joao Fernandes, eds.), Idea Group, 2009.

Fei Cao, Jeff Gray, and Barrett Bryant, "Component Based Software Engineering," *Encyclopedia of Computer Science and Engineering*, (Benjamin Wah, ed.), John Wiley & Sons, ISBN: 978-047138-393-2, 2009.

Xiaoqing Wu, Marjan Mernik, Barrett R. Bryant and Jeff Gray, "Implementation of Programming Languages Syntax and Semantics," *Encyclopedia of Information Science and Technology*, 2nd ed., (Mehdi Khosrow-Pour, ed.), Idea Group, ISBN: 978-1-60566-026-4, 2008.

Gan Deng, Douglas C. Schmidt, Aniruddha Gokhale, Jeff Gray, Yuehua Lin, and Gunther Lenz, "Evolution in Model-Driven Software Product-line Architectures," *Designing Software-Intensive Systems: Methods and Principles*, (Pierre Tiako, ed.), Idea Group, ISBN: 978-1-59904-699-0, 2008, Chapter 5, pp. 102-132.

This chapter also appeared in the book *Software Applications: Concepts, Methodologies, Tools, and Applications*, (Pierre Tiako, ed.), Idea Group, ISBN: 978-1-60566-060-8, 2009.

Enis Afgan, Purushotham Bangalore, and Jeff Gray, "A Domain-Specific Language for Describing Grid Applications," *Designing Software-Intensive Systems: Methods and Principles*, (Pierre Tiako, ed.), Idea Group, ISBN: 978-1-59904-699-0, 2008, Chapter 13, pp. 402-438.

This chapter also appeared in the book *Software Applications: Concepts, Methodologies, Tools, and Applications*, (Pierre Tiako, ed.), Idea Group, ISBN: 978-1-60566-060-8, 2009.

Jeff Gray, Juha-Pekka Tolvanen, Steven Kelly, Aniruddha Gokhale, Sandeep Neema, and Jonathan Sprinkle, "Domain-Specific Modeling," *Handbook of Dynamic System Modeling*, (Paul Fishwick, ed.), CRC Press, ISBN: 1584885653, 2007, Chapter 7, pp. 7-1 through 7-20.

Yuehua Lin, Jing Zhang, and Jeff Gray, "A Framework for Testing Model Transformations," *Model-Driven Software Development*, (Sami Beydeda, Matthias Book, and Volker Gruhn, eds.), Springer, ISBN: 3-540-25613-X, 2005, Chapter 10, pp. 219-236.

Jing Zhang, Yuehua Lin, and Jeff Gray, "Generic and Domain-Specific Model Refactoring using a Model Transformation Engine," *Model-Driven Software Development*, (Sami Beydeda, Matthias Book, and Volker Gruhn, eds.), Springer, ISBN: 3-540-25613-X, 2005, Chapter 9, pp. 199-218.

Jeff Gray, Janos Sztipanovits, Douglas C. Schmidt, Ted Bapty, Sandeep Neema, and Aniruddha Gokhale, "Two-level Aspect Weaving to Support Evolution of Model-Driven Synthesis," *Aspect-Oriented Software Development*, (Robert Filman, Tzilla Elrad, Mehmet Aksit, and Siobhán Clarke, eds.), Addison-Wesley, ISBN: 0321219767, 2004, Chapter 30, pp. 681-710.

Aniruddha Gokhale, Douglas Schmidt, Balachandran Natarajan, Jeff Gray, and Nanbor Wang, "Model-Driven Middleware," *Middleware for Communications*, (Qusay Mahmoud, ed.), John Wiley and Sons, ISBN: 0470862068, 2004, Chapter 7, pp. 163-187.

*Refereed  
Conference  
Papers*

Hui Wu, Jeff Gray, and Marjan Mernik, "Unit Testing Support for Domain-Specific Languages," *IFIP Conference on Domain-Specific Languages*, Springer Verlag LNCS, Oxford, UK, July 2009.

Robert Tairas, Marjan Mernik, and Jeff Gray, "Using Ontologies in the Domain Analysis of Domain-Specific Languages," *Workshop on Transforming and Weaving Ontologies and Model Driven Engineering (TWOMDE)*, Springer-Verlag LNCS 5421 (*Workshops and Symposia at MODELS 2008*), Toulouse, France, September 2008, pp. 332-342.

**(Best Paper Award)**

Dirk Deridder, Jeff Gray, Alfonso Pierantonio, and Pierre-Yves Schobbens, "Report on the International Workshop on Model Co-evolution and Consistency Management," *Workshop on Model Co-Evolution and Consistency Management (MCCM)*, Springer-Verlag LNCS 5421 (*Workshops and Symposia at MODELS 2008*), Toulouse, France, September 2008.

Yu Sun, Zekai Demirezen, Frédéric Jouault, Robert Tairas, and Jeff Gray, "A Model Engineering Approach to Tool Interoperability," *First International Conference on Software Language Engineering (SLE)*, Springer-Verlag LNCS 5452, Toulouse, France, September 2008, pp. 178-187.

Ritu Arora, Yu Sun, Zekai Demirezen, and Jeff Gray, "Profiler Instrumentation Using Metaprogramming Techniques," *ACM Southeast Conference*, Auburn, AL, March 2008.

Jörg Kienzle, Jeff Gray, Dominik Stein, Walter Cazzola, Omar Aldawud, Tzilla Elrad, "Report of the 11<sup>th</sup> International Workshop on Aspect-Oriented Modeling," *MODELS 2007 Satellite Events Proceedings*, Springer-Verlag LNCS 5002, Nashville, TN, 2008, pp. 1-6.

Jeff Gray, "Tutorials at MODELS 2007," *Model Driven Engineering Languages and Systems (MODELS)*, Springer-Verlag LNCS 4735, Nashville, TN, October 2007, pp. 690-693.

Mikael Barbero, Frederic Jouault, Jeff Gray, and Jean Bezivin, "A Practical Approach to Model Extension," *European Conference on Model-Driven Architecture (ECMDA)*, Springer-Verlag LNCS 4530, Haifa, Israel, June 2007, pp. 32-42.

Jean Bezivin, Mikaël Barbero, Hugo Bruneliere, Jeff Gray, and Frédéric Jouault, "Reverse Engineering in Eclipse with the MoDisco Project," *EclipseCon*, Santa Clara, CA, March 2007.

Swapna Gokhale, Upsorn Praphamontripong, Aniruddha Gokhale, and Jeff Gray, "Performance Analysis of a Middleware Demultiplexing Pattern," *40<sup>th</sup> Hawaiian International Conference on System Sciences (HICSS)*, Big Island, HI, January 2007.

Dimple Kaul, Arundhati Kogekar, Aniruddha Gokhale, Jeff Gray, and Swapna Gokhale, "POSAML: A Visual Modeling Framework for Middleware Provisioning," *40<sup>th</sup> Hawaiian International Conference on System Sciences (HICSS)*, Big Island, HI, January 2007.

Jörg Kienzle, Dominik Stein, Walter Cazzola, Jeff Gray, Omar Aldawud, Tzilla Elrad, "Report of the 9<sup>th</sup> International Workshop on Aspect-Oriented Modeling," *MODELS 2006 Satellite Events Proceedings*, Springer-Verlag LNCS 4364, Genova, Italy, 2007, pp. 1-5.

Swapna Gokhale, Upsorn Praphamontripong, Aniruddha Gokhale, and Jeff Gray, "Performance Analysis of an Asynchronous Web Server," *30<sup>th</sup> Annual International Computer Software and Applications Conference (COMPSAC)*, Chicago, IL, September 2006.

Xiaoqing Wu, Barrett Bryant, Jeff Gray, Suman Roychoudhury, and Marjan Mernik, "Separation of Concerns in Compiler Development using Aspect-Oriented," *ACM Symposium for Applied Computing (SAC) – Programming for Separation of Concerns Track*, Dijon, Bourgogne, France, March 2006, pp. 1585-1590.

Robert Tairas and Jeff Gray, "Phoenix-Based Clone Detection Using Suffix Trees," *44<sup>th</sup> ACM Southeast Conference*, Melbourne, FL, March 2006, pp. 679-684.

Swapna Gokhale, Aniruddha Gokhale, and Jeff Gray, "Response Time Analysis of an Event Demultiplexing Pattern in Middleware for Network Services," *IEEE GlobeCom*, St. Louis, MO, December 2005.

Jörg Kienzle, Jeff Gray, Dominik Stein, “Report of the 7<sup>th</sup> International Workshop on Aspect-Oriented Modeling,” *MoDELS 2005 Satellite Events Proceedings*, Springer-Verlag LNCS 3844, Montego Bay, Jamaica, October 2005, pp. 91-99.

Jeff Gray, “MoDELS 2005 Doctoral Symposium Summary,” *MoDELS 2005 Satellite Events Proceedings*, Springer-Verlag LNCS 3844, Montego Bay, Jamaica, October 2005, pp. 333-336.

Jeff Gray, Yuehua Lin, Jing Zhang, Steve Nordstrom, Aniruddha Gokhale, Sandeep Neema, and Swapna Gokhale, “Replicators: Transformations to Address Model Scalability,” *Model Driven Engineering Languages and Systems (MoDELS)* (formerly the UML series of conferences), Springer-Verlag LNCS 3713, Montego Bay, Jamaica, October 2005, pp. 295-308.

**(“Selected as one of the best papers of the MoDELS 2005 conference”)**

Wenzhong Gao, Sandeep Neema, Jeff Gray, Joseph Picone, Sachin Porandla, Shravana Musunuri, and J. Mathews, “Hybrid Powertrain Design Using a Domain-Specific Modeling Environment,” *IEEE Vehicle Power and Propulsion Conference (VPPC)*, Chicago, IL, September 2005, pp. 6-12.

Shih-Hsi Liu, Fei Cao, Barrett R. Bryant, Jeff Gray, Rajeev R. Raje, Andrew M. Olson, and Mikhail Auguston, “Quality of Service-Driven Requirement Analysis for Component Composition: A Two-Level Grammar Approach,” *International Conference on Software Engineering and Knowledge Engineering (SEKE)*, Taipei, Taiwan, July 2005, pp. 731-734.

Rajesh Sudarsan and Jeff Gray, “Meta-Model Search: Using XPath to Search Domain-Specific Models,” *International Conference on Software Engineering Research and Practice (SERP)*, Las Vegas, NV, June 2005.

Victoria Davis, Jeff Gray, and Joel Jones, “Generative Approaches for Application Tailoring of Mobile Devices,” *43<sup>rd</sup> ACM Southeast Conference*, Kennesaw, GA, March 2005, pp. 237-241 (volume 2).

Shih-Hsi Liu, Barrett Bryant, Jeff Gray, Rajeev Raje, Andrew Olson, and Mikhail Auguston, “QoS-UniFrame: A Petri Net-based Modeling Approach to Assure QoS Requirements of Distributed Real-time and Embedded Systems,” *Engineering of Computer Based Systems (ECBS)*, Greenbelt, MD, April 2005, pp. 202-209.

Hui Wu, Jeff Gray, Suman Roychoudhury, and Marjan Mernik, “Weaving a Debugging Aspect into Domain-Specific Language Grammars,” *ACM Symposium for Applied Computing (SAC) – Programming for Separation of Concerns Track*, Santa Fe, NM, March 2005, pp. 1370-1374.

Xiaoqing Wu, Suman Roychoudhury, Barrett Bryant, Jeff Gray, and Marjan Mernik, “A Two-Dimensional Separation of Concerns for Compiler Construction,” *ACM Symposium for Applied Computing (SAC) – Programming for Separation of Concerns Track*, Santa Fe, NM, March 2005, pp. 1365-1369.

Danyu Liu, Alan Sprague, and Jeff Gray, “PolyCluster: An Interactive Visualization Approach to Construct Classification Rules,” *International Conference on Machine Learning and Applications (ICMLA)*, Louisville, KY, December 2004, pp. 280-287.

Jeff Gray, Jing Zhang, Yuehua Lin, Hui Wu, Suman Roychoudhury, Rajesh Sudarsan, Aniruddha Gokhale, Sandeep Neema, Feng Shi, and Ted Bapty, "Model-Driven Program Transformation of a Large Avionics Framework," *Generative Programming and Component Engineering (GPCE)*, Springer-Verlag LNCS 3286, Vancouver, BC, October 2004, pp. 361-378.

Omar Aldawud, Grady Booch, Jeff Gray, Jörg Kienzle, Dominik Stein, Mohamed Kandé, Faisal Akkawi, Tzilla Elrad, "Report of the 5th International Workshop on Aspect-Oriented Modeling," in: Jardim Nunes, N., Selic, B., Silva, A. Toval, A., *UML 2004 - Satellite Activities*, Lisbon, Portugal, October 11-15, 2004, Springer-Verlag LNCS 3297, pp. 13-22.

Song Zhou, Chuanxi Xu, Hui Wu, Yuehua Lin, Jing Zhang, Juanqin Wang, Jeff Gray, and Barrett Bryant, "E-R Modeler: A Database Modeling Toolkit for Eclipse," *42<sup>nd</sup> Annual ACM Southeast Conference*, Huntsville, AL, April 2-3, 2004, pp. 160-165.

Rachael Dennison, Bina Shah, and Jeff Gray, "A Model-Driven Approach for Generating Embedded Robot Navigation Control Software," *42<sup>nd</sup> Annual ACM Southeast Conference*, Huntsville, AL, April 2-3, 2004, pp. 332-335.

Jeff Gray and Suman Roychoudhury, "A Technique for Constructing Aspect Weavers Using a Program Transformation Engine," *International Conference on Aspect-Oriented Software Development (AOSD)*, Lancaster, UK, March 22-26, 2004, pp. 36-45.

**(Alabama IEEE "Best Paper of 2004" Award – 1<sup>st</sup> place)**

Fei Cao, Barrett Bryant, Jeff Gray, Carol Burt, Rajeev Raje, Andrew Olson, and Mikhail Auguston, "Modeling Web Services: Toward System Integration in UniFrame," *7<sup>th</sup> World Conference on Integrated Design and Process Technology (IDPT)*, Austin, TX, December 3-6, 2003.

Jeff Gray, Ted Bapty, Sandeep Neema, Douglas C. Schmidt, Aniruddha Gokhale, and Balachandran Natarajan, "An Approach for Supporting Aspect-Oriented Domain Modeling," *Generative Programming and Component Engineering (GPCE)*, Springer-Verlag LNCS 2830, Erfurt, Germany, September 22-25, 2003, pp. 151-168.

Suman Roychoudhury, Jeff Gray, Hui Wu, Jing Zhang, and Yuehua Lin, "A Comparative Analysis of Meta-programming and Aspect-Oriented," *41<sup>st</sup> Annual ACM Southeast Conference*, Savannah, GA, March 7-8, 2003, pp. 196-201.

Jeff Gray and Gábor Karsai, "An Examination of DSLs for Concisely Representing Model Traversals and Transformations," *36<sup>th</sup> Hawaiian International Conference on System Sciences (HICSS)*, Big Island, HI, January 6-9, 2003, 10 pages, Proceedings at IEEE Digital Library (<http://dlib.computer.org/conferen/hicss/1874/pdf/187490325a.pdf>).

Sandeep Neema, Ted Bapty, Jeff Gray, and Aniruddha Gokhale, "Generators for Synthesis of QoS Adaptation in Distributed Real-Time Embedded Systems," *First ACM Conference on Generative Programming and Component Engineering (GPCE)*, Springer-Verlag LNCS 2487, Pittsburgh, PA, October 6-8, 2002, pp. 236-251.

Gábor Karsai, Jeff Gray, and George Bloor, "Integration of Design Tools and Semantic Interoperability," *EIA/GEIA 2000 Engineering and Technical Management Symposium*, Dallas, TX, September 25-29, 2000, Proceedings on CD-ROM.

Jeffrey G. Gray and Stephen R. Schach, "Constraint Animation Using an Object-Oriented Declarative Language," *Proceedings of the 38th Annual ACM Southeast Conference*, Clemson, SC, April 7-8, 2000, pp. 1-10.

**(Best Conference Paper Award)**

Gábor Karsai and Jeff Gray, "Component Generation Technology for Semantic Tool Integration," *Proceedings of IEEE Aerospace 2000 Conference*, Big Sky, MT, March 18-25, 2000, Proceedings on CD-ROM.

Murali Sitaraman and Jeff Gray, "Software Reuse: A Context for Introducing Software Engineering Principles in a Traditional Computer Science Second Course," *ACM Tri-Ada 1993 Conference Proceedings*, Seattle, WA, September 1993, pp. 137-146.

Jeff Gray, "Teaching the Second Course of Computer Science in a Reuse-Based Setting: A Sequence of Laboratory Assignments in Ada," *Proceedings of the 11th National Conference on Ada Technology*, Williamsburg, VA, March 1993, pp. 38-45.

*Refereed/Invited  
Workshop  
Papers*

Yu Sun, Zekai Demirezen, Marjan Mernik, Jeff Gray, and Barrett Bryant, "Is My DSL a Modeling or Programming Language?" *Workshop on Domain-Specific Program Development (DSPD)*, held at *GPCE 2008*, Nashville, TN, October 2008.

Yu Sun, Marjan Mernik, and Jeff Gray, "Model Transformations Require Formal Semantics," *Workshop on Domain-Specific Program Development (DSPD)*, held at *GPCE 2008*, Nashville, TN, October 2008.

Jeff Gray, "Challenges of Model-Driven Evolution of Legacy Systems," *Perspectives Workshop: Model Engineering of Complex Systems*, Schloss Dagstuhl, Wadern, Germany, August 2008.

Robert Tairas, Shih-hsi Liu, Frédéric Jouault and Jeff Gray, "CoCloRep: A DSL for Code Clones," *4<sup>th</sup> International Workshop on Language Engineering (ATEM)*, held at *MODELS 2007*, Nashville, TN, October 2007, pp. 91-99.

Suman Roychoudhury, Frédéric Jouault and Jeff Gray, "Model-Based Aspect Weaver Construction," *4<sup>th</sup> International Workshop on Language Engineering (ATEM)*, held at *MODELS 2007*, Nashville, TN, October 2007, pp. 117-126.

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Jeff Gray, Ted Bapty, Sandeep Neema, and Aniruddha Gokhale, "Generating Aspect-Code from Models," *Workshop on Generative Techniques for Model-Driven Architecture*, held at *OOPSLA 2003*, Seattle, WA, November 2002.

Douglas C. Schmidt, Aniruddha Gokhale, Balachandran Natarajan, Sandeep Neema, Ted Bapty, Jeff Parsons, Andrey Nechipurenko, Jeff Gray, and Nanbor Wang, "CoSMIC: A MDA tool for Component Middleware-based Distributed Real-time and Embedded Applications," *Workshop on Generative Techniques for Model-Driven Architecture*, held at *OOPSLA 2002*, Seattle, WA, November 2002.

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Ted Bapty, Sandeep Neema, and Jeff Gray, "Model-Integrated Computing For Composition of Complex QoS Applications Using The Generic Modeling Environment (GME)," *OMG Workshop on Real-Time and Embedded Distributed Object Computing*, Washington, DC, July 15-18, 2002.

Jeff Gray, Ted Bapty, and Sandeep Neema, "An Example of Constraint Weaving in Domain-Specific Modeling," *Workshop on Domain-Specific Visual Languages*, held at *OOPSLA 2001*, Tampa, FL, October 2001.

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Antonio Vallecillo, Jeff Gray, and Alfonso Pierantonio, editors, *First International Conference on Model Transformations (ICMT): Theory and Practice of Model Transformation*, Springer-Verlag LNCS 5063, ISBN: 978-3-540-69926-2, Zurich Switzerland, July 2008, 261 pages.

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Juha-Pekka Tolvanen, Jeff Gray, and Steve Kelly, editors, *First ACM OOPSLA Workshop on Domain-Specific Visual Languages*, University Printing House, Jyväskylä, Finland, ISBN: 951-39-1056-3, October 2001, 140 pages.

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Jean Bezivin, Jeff Gray, Alfonso Pierantonio, and Antonio Vallecillo, guest editors, *Journal of Software and Systems Modeling*, special issue on “Model Transformation,” October 2008.

Omar Aldawud, Walter Cazzola, Tzilla Elrad, Jeff Gray, and Jörg Kienzle, guest editors, *Journal of Object Technology*, special issue on “Aspect-Oriented Modeling,” August 2007.

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Jeff Gray, Matti Rossi, and Juha-Pekka Tolvanen, guest editors, *Journal of Visual Languages and Computing*, special issue on “Modeling with Domain-Specific Visual Languages,” Elsevier Science, Volume 15, Issues 3-4, June/August 2004, pp. 207-330.

- Books/  
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Materials*
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- Stephen R. Schach, Jeffrey G. Gray, and David M. Schach, *Instructor's Solutions Manual and Transparency Masters to Accompany "Classical and Object-Oriented Software Engineering,"* Fourth Edition, McGraw-Hill, Inc., Burr Ridge, IL, 1998, ISBN: 0-07-303231-X.
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- Matthew Curry and Jeff Gray, "BibPort: Creating Bibliographic References," *Dr. Dobbs Journal*, February 2008, pp. 30-38.
- Jeff Gray, "VMS Worm," *2600: The Hacker Quarterly*, Summer 1989, pp. 38-40.
- "Ants Climbing Trees: Heap Memory Management in Ada," *Embedded Systems Programming*, April 1990, pp. 23-26.
- Tech Reports*
- Jane L. Snowdon and Jeffrey G. Gray, "A Survey and Evaluation of Technologies for Supporting Component-based Development," IBM Research Report, RC-20536 (91052), IBM TJ Watson Research Center, Yorktown Heights, NY, August 9, 1996, pp. 1-46.
- Murali Sitaraman and Jeff Gray, "A Context for Introducing SE Principles in a Traditional CS Second Course," Department of Statistics and Computer Science, West Virginia University, Morgantown, WV, TR 93-2, March 23, 1993, pp. 1-14.
- Unrefereed  
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- Jeff Gray, "Integrating Alice into K-12 Outreach Events," *ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2006.
- Jeff Gray, Yuehua Lin, and Jing Zhang, "Transformations to Support Model Evolution and Scalability," *ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2005.
- Jeff Gray, "Introducing High School Students to Java through Lego Robot Experiments," *ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2004.
- Jeff Gray, Yuehua Lin, and Jing Zhang, "Degrees of Independence in Aspect-Oriented Modeling to Support Two-Level Weaving," *Real-Time CORBA Component Model Workshop*, Washington University, St. Louis, Missouri, March 1, 2003.
- Jeff Gray, "Raising Aspect-Oriented to Higher Levels of Abstraction," *ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2002.

Jeff Gray and George Bloor, "Application Integration," *Boeing's 3rd Annual Product Data Exchange Conference*, Mesa, AZ, October 2000.

Jeff Gray, "A Generator for Model Interpreters," *ACM Mid-Southeast Conference*, Gatlinburg, TN, November 1999.

**(Doctoral Division – 1<sup>st</sup> Place)**

Jeff Gray, "Some Observations on Component-Based Software Development," *ACM Mid-Southeast Conference*, Gatlinburg, TN, November 1996.

Jeff Gray, "Improving Completeness and Consistency in Object-Oriented Analysis through Adaptable Formalisms," *ACM Mid-Southeast Conference*, Gatlinburg, TN, November 1995.

*Keynote  
Presentation*

"Automating Software Evolution through Model-Driven Engineering," *Eighth Annual Colloquium on Information Technology*, Troy University – Rosa Parks Museum Auditorium, Montgomery, Alabama, April 3, 2007.

- Invited Presentations/Outreach Meetings*      “Computer Science Opportunities at UAB”
- Deer Valley Elementary School, April 24, 2009 (All day)
  - Woodlawn High School, April 7, 2009
  - Vestavia Hills High School, April 3, 2009
  - Woodlawn High School, March 31, 2009
  - Riverchase Elementary School Career Tech Day, March 10, 2009 (All day)
  - Hewitt Trussville Middle School, March 9, 2009
  - Ramsay High School Career Fair, February 27, 2009
  - McAdory High School, February 20, 2009
  - Spain Park High School, February 20, 2009
  - Homewood Middle School, January 20, 2009
  - University of Alabama-Tuscaloosa, Junior Chapter of the National Society of Black Engineers (UAT-NSBE), Tuscaloosa, AL, January 18, 2009
  - Riverchase Elementary School, December 10, 2008
  - Irondale Community School, December 9, 2008
  - Mountain Brook Elementary School, December 8, 2008
  - N.E. Miles Jewish Day School, December 3, 2008
  - Everest Academy, November 14, 2008
  - Calvary Christian, November 14, 2008
  - Gardendale High School Career Fair, October 28, 2008 (All day)
  - Linsly School, Wheeling, WV, October 24, 2008
  - Morgan Academy, Selma, AL, October 3, 2008
  - Ramsay High School, September 5, 2008
  - Carver High School, September 4, 2008
  - AMSTI Teacher Training at Gardendale Elementary School, June 13, 2008
  - AMSTI Teacher Training at Shades Valley High School, June 6, 2008
  - Hayden Middle School, May 22, 2008
  - Eura Brown Elementary, Gadsden, AL, May 20, 2008 (All day)
  - Riverchase Elementary, April 9, 2008
  - Westminster School, April 3, 2008
  - Bragg Middle School, March 12, 2008
  - Irondale Community School, March 11, 2008
  - Bragg Middle School, March 10, 2008
  - The Highlands School, February 14, 2008.
  - Irondale Community School, February 14, 2008.
  - Mountain Brook Boy Scouts Monthly Meeting, April 30, 2007
  - West End High School, March 30, 2007
  - Alabama School of Fine Arts, January 26, 2007
  - Vestavia Hills High School, November 3, 2006
  - The Altamont School, November 3, 2006
  - Neighborhood Housing Services of Birmingham, October 14, 2006
  - Consortium for Computer Sciences in Colleges, Lipscomb University, Nashville TN, October 10-11, 2006
  - Gardendale High School, September 26, 2006
  - Alabama School of Math and Science, Mobile, AL, September 22, 2006
  - Fultondale High School, September 15, 2006
  - Gardendale Educational Meeting, August 17, 2006
  - Briarwood Christian School, June 20, 2006
  - The Altamont School, June 6, 2006
  - Vestavia Hills High School, May 30, 2006
  - Mountain Brook High School, April 14, 2006

“Automating Software Evolution through Model-Driven Engineering,” Drexel University Department of Computer Science Colloquium Series, Philadelphia, Pennsylvania, April 20, 2009.

“Game Programming with ALICE: How UAB is Using Games to Teach Computing Programming to Birmingham Children,” Donaldson Correction Facility, Bessemer, AL, March 10, 2009.

“CS Jeopardy,” Organizer and Host, UAB CIS Department Seminar, February 29, 2008.

“Reaching out to Alabama Youth with Computer Science Projects,” Sigma Xi (The Scientific Research Society) Lunch Seminar, February 18, 2008.

“Introduction to Domain-Specific Modeling,” *Birmingham Service-Oriented Architecture Meeting*, January 22, 2008.

Marjan Mernik, Jan Heering, Tony Sloane, Jeff Gray, and Hui Wu, “Tool Support for Domain-Specific Languages,” *11<sup>th</sup> International Symposium on Information, Communication, and Automation Technologies*, Sarajevo, Bosnia, October 30, 2007.

“Computing Outreach in Jefferson County,” Jefferson County Board of Education Meeting, October 18, 2007.

Jeff Gray and Cameron McKinley (Alabama Teacher of the Year), “Game Programming for Kids? It’s Elementary using Alice and Scratch,” *Hoover City Schools Technology Symposium*, Spain Park High School, May 31, 2007.f

Marjan Mernik, Hui Wu, and Jeff Gray, “DSL Debugging Framework,” Department Seminar, University of Marne-la-Valle (UMLV), Paris, France, April 3, 2007 (presented by Marjan Mernik).

“Reaching out to Alabama Youth with Computer Science Projects,” Birmingham Optimist’s Club, March 22, 2007.

“Introduction to Robotics through Lego Mindstorms,” Gardendale High School, January 24, 2007.

“Transformations Across Multiple Software Artifacts,” Motorola Research Labs, Chicago, IL, July 24, 2006.

“CS Jeopardy,” Organizer and Host, UAB CIS Department Seminar, April 12, 2006.

“Transformations Across Multiple Software Artifacts,” Computer Science Department Seminar, Indiana University-Purdue University Indianapolis (IUPUI), Indianapolis, IN, March 31, 2006.

“Transformations Across Multiple Software Artifacts,” ISIS Seminar Series, Vanderbilt University, Nashville, TN, November 30, 2005.

Hui Wu and Jeff Gray, “Extending the Eclipse Debug Perspective and JUnit to Support Testing and Debugging of Domain-Specific Languages,” *Magic City Java Users Group*, Birmingham, AL, August 16, 2005.

“Introduction to Lego Robot Programming,” Donaldson Correction Facility, Bessemer, AL, May 3, 2005.

“Transformations Across Software Artifacts,” University of Alabama, Tuscaloosa, AL, February 18, 2005.

“Transforming Legacy Software Using Aspects and Models,” Mississippi State University, Starkville, MS, April 23, 2004.

“Transforming Legacy Software,” *Guest Speaker: Alabama IEEE Section Meeting*, Birmingham, AL, February 2, 2004.

“Enabling Research within the UAB CIS Department,” *Enabling Technologies Symposium* (Organized by Engineering Deans from UA, UAB, UAH), Birmingham, AL, July 31, 2003.

In their absence, I was invited to present the following paper by Aniruddha Gokhale, Douglas Schmidt, Tao Lu, Balachandran Natarajan, and Nanbor Wang: “CoSMIC: An MDA Generative Tool for Distributed Real-time and Embedded Applications,” *Middleware 2003: Workshop on Model-driven Approaches to Middleware Applications Development*, Rio de Janeiro, Brazil, June 2003.

“Modeling with Aspects,” *Invited Speaker: MTSU Computer Science Department*, Murfreesboro, TN, February 6, 2003.

In their absence, I was invited to present the following paper by Aniruddha Gokhale and Balachandran Natarajan: “GriT: A CORBA-based Grid Middleware Architecture,” *36<sup>th</sup> Hawaiian International Conference on System Sciences (HICSS)*, Big Island, HI, January 6-9, 2003, Proceedings on CD-ROM.

“Introducing Aspect-Oriented Programming with AspectJ,” *Guest Speaker: Magic City Java Users Group*, November 19, 2002.

“Metaweavers for Aspect-Oriented Domain Modeling,” *Invited Speaker: Auburn University, Department of Computer Science and Software Engineering*, Auburn, AL, November 15, 2002.

“Using XML to Support Aspect Weaving,” *AOSD Workshop on Interpretation of Concerns in XML*, Enschede, The Netherlands, April 23, 2002.

“A Survey of Some Concerns and Their Separation,” *Vanderbilt Faculty Candidate Series*, Nashville, TN, February 22, 2002.

Title: “Applying Aspect-Oriented Techniques to Domain-Specific Modeling,”

- *University of Alabama Department of Computer Science Colloquium Series*, Tuscaloosa, AL, November 12, 2001.
- *University of Florida Department of Computer and Information Science and Engineering*, Gainesville, FL, January 9, 2002.
- *The University of Alabama-Birmingham Department of Computer and Information Sciences Annual Seminar Series*, Birmingham, AL, January 23, 2002.
- *Ohio State University Guest Speaker Series*, Columbus, OH, January 29, 2002.

“Future Research Directions in Aspect-Oriented Programming,” *The University of Alabama Department of Computer Science Colloquium Series*, Tuscaloosa, AL, January 25, 2002.

“Introduction to Aspect-Oriented Programming”

- *Vanderbilt Computer Science Department Seminar*, March 25, 1999
- *ISIS Seminar*, April 1, 1999
- *TCS Management Group*, April 2, 1999

“Technologies for Supporting Component-Based Software Development,”  
*Vanderbilt Computer Science Department Seminar*, October 3, 1996.

A formal presentation of IBM Research Report RC-20536 (91052) – see above,  
IBM TJ Watson Research Center, Yorktown Heights, NY, August 9, 1996.

*Television/  
Radio  
Interviews*

“Aladdin at Ramsay High School,” CBS 42, Birmingham, AL, October 14, 2008, 10pm Evening News.

“UAB on YouTube: Ready for Robots,” UAB BlazerCast, July 22, 2008.

“Summer Robotics Camp”

- NBC 13, Reporter: Linda White, Birmingham, AL, July 17, 2008, 6pm Evening News.
- CBS 42, Birmingham, AL, July 17, 2008, 6pm Evening News.
- ABC 33/40, Birmingham, AL, July 17, 2008, 10pm Evening News.
- Fox 6, Birmingham, AL, July 17, 2008, 5pm Evening News.

“Alice Summer Camps”

- CBS 42, Birmingham, AL, June 27, 2008, 6pm Evening News.
- ABC 33/40, Birmingham, AL, June 27, 2008, 10pm Evening News.
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“The Summer Competitive Edge,” NBC 13, Reporter: Bettina Boateng, Birmingham, AL, May 29, 2008, 10pm Evening News.

“Alabama High School Programming Contest and Alice Festival,” NBC 13, Reporter: Bettina Boateng, Birmingham, AL, May 10, 2008, 10pm Evening News.

“UAB Outreach Programs: Middle School Computer Camp,” Fox 6, Reporter: Sarah Verser, Birmingham, AL, July 17, 2007, 5pm Evening News.

“UAB Robotics Camp”

- NBC 13, Birmingham, AL, June 14, 2007, 10pm Late News.
- ABC 33/40, Birmingham, AL, June 14, 2007, 6pm Evening News.

“Computer Science Outreach,” *National Public Radio* (three states – WTSU, WRWA, WTJB), Troy University Public Radio, Montgomery, AL, April 3, 2007.

*Panels*

Panel on “DSLs: The Good, the Bad, and the Ugly,” Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA), Nashville, TN, October 22, 2008. (Serving as Panel Chair, with the following co-panelists: Kathleen Fisher, Charles Consel, Tihamer Levendovszky, Marjan Mernik, Juha-Pekka Tolvanen).

Panel on “Evolution and Domain-Specific Modeling,” *OOPSLA Workshop on Domain-Specific Modeling*, Nashville, TN, October 19, 2008. (Serving as Panel Chair, with the following co-panelists: Steven Kelly, Laurent Safa, Goren Olsen, Arturo Sanchez).

Panel on “The Future of Aspect Modeling: Will MDD Absorb it?” *Model Driven Engineering Languages and Systems (MODELS)*, Nashville, TN, October 4, 2007.  
(Co-Panelists: João Araújo, Jon Whittle, Kevin Sullivan, and Robert France)

Panel on “Abstraction Challenges,” *ICSE Workshop on Modeling in Software Engineering*, Minneapolis, MN, May 19, 2007.  
(Co-organized with Jeff Kramer; Panelists included Mats Heimdahl and Brian Berenbach)

Panel on “Generative Programming: Past, present, and future,” *GPCE 2004*, Vancouver, BC, October 27, 2004.  
(Co-Panelists: Doug Schmidt, Krzysztof Czarnecki, Don Batory, and Walid Taha)

Panel on “Semantic Foundation for Model Integrated Computing,” *OMG Model-Integrated Computing Workshop*, Washington, DC, October 14, 2004.  
(Co-Panelists: Sushil Birla, Janos Sztipanovits, and Gabor Karsai)

Panelist for the session on *Aspects, Components, and Patterns for Infrastructure Software (ACP4IS)* at *AOSD '04: International Conference on Aspect-Oriented Software Development*, Lancaster, UK, March 22-26, 2004.

*Demonstrations* Robert Tairas, Jeff Gray, and Ira Baxter, “Visualizing Clone Detection Results,” *Automated Software Engineering Conference*, Atlanta, GA, November 2007, pp. 549-550.

Jeff Gray and Yuehua Lin, “A Brief Demonstration of C-SAW and DSMDiff.” *TOOLS Workshop on Model-Driven Development Tool Implementers Forum*, Zurich, Switzerland, June 2007.

Hui Wu and Jeff Gray, “Testing Domain-Specific Languages in Eclipse,” *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, San Diego, CA, October 2005.

Jeff Gray, Suman Roychoudhury, Jing Zhang, and Yuehua Lin, “C-SAW and GenAWeave: A Two-Level Aspect Weaving Toolsuite,” *AOSD '05: International Conference on Aspect-Oriented Software Development*, Chicago, IL, March 2005.

Jeff Gray, Ira Baxter, Jing Zhang, and Suman Roychoudhury, “C-SAW and GenAWeave: A Two-Level Aspect Weaving Toolsuite,” *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Vancouver, BC, October 2004.

Jeff Gray, Ted Bapty, Sandeep Neema, and Ákos Lédeczi, “A Demonstration of an Aspect Weaver for Domain-Specific Modeling,” *First International Conference on Aspect-Oriented Software Development*, Enschede, The Netherlands, April 2002.

*Posters* Robert Smyly and Oliver White (served as mentor on this student science fair poster), “Virtual Navigation of Multimedia Maps,” *Alabama State Science Fair*, Huntsville, AL, April 2009.

The same poster was presented at the *Central Alabama Regional Science Fair*, Birmingham, AL, March 2009.

Hyun Cho (advisor on this student poster), “Using Metaprogramming to Implement a Test Framework,” *47<sup>th</sup> ACM Southeast Conference*, Clemson, SC, March 2009.

J. Michael Wyss, Jeff Gray, John Mayer, David Radford, Alan Shih, Dixon Shuttleworth, and Ross Ptacek, "Aladdin: Alice, Linear Algebra, Dynamic Dimensional Information Network," *NSF ITEST Annual Meeting*, Arlington, VA, February 2009.

Robert Smyly (served as mentor on this student science fair poster), "A Visual Designer for Generating Multimedia Simulations," *Central Alabama Regional Science Fair, Birmingham, AL*, March 2008.

J. Michael Wyss, Jeff Gray, John Mayer, David Radford, Alan Shih, "Aladdin: The UAB Alice, Linear Algebra, Dynamic Dimensional Information Network," *NSF ITEST Annual Meeting*, Arlington, VA, February 2008.

Xiaoping Wu, Barrett R. Bryant, Jeff Gray, and Marjan Mernik (served as co-advisor on this student poster), "A Framework for Component-based Compiler Development," *Programming Language Design and Implementation (PLDI)*, San Diego, CA, June 2007.

William Whitney (served as mentor on this student science fair poster), "An Autonomous Self-Parking Vehicle," *Alabama State Science Fair*, Huntsville, AL, April 2007.

The same poster was presented at the *Central Alabama Regional Science Fair*, Birmingham, AL, March 2007.

George Tankersley (served as mentor on this student science fair poster), "Programming by Voice in Alice," *Central Alabama Regional Science Fair*, Birmingham, AL, March 2007.

Yuehua Lin and Jeff Gray (served as advisor on this student poster), "Transformations to Automate Model Change Evolution," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Portland, OR, October 2006.

Robert Tairas, Jeff Gray, and Ira Baxter, "Visualization of Clone Detection Results," *Eclipse Technology eXchange (ETX)*, held at *OOPSLA 2006*, Portland, OR, October 2006.

Juha-Pekka Tolvanen, Jeff Gray, and Jonathan Sprinkle, "The 6<sup>th</sup> Workshop on Domain-Specific Visual Languages," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Portland, OR, October 2006.

Jeff Gray, "Increasing Awareness of Computing in Alabama High Schools: Introducing High School Students to Java through Lego Robot Experiments," *Governor's Summit on Mathematics and Science Education*, Birmingham, AL, March 2006.

Jerrod Sutton (served as mentor on this student science fair poster), "Robotic Controlled Character Recognition," *Alabama State Science Fair*, Huntsville, AL, April 2006.

The same poster was presented at the *Central Alabama Regional Science Fair*, Birmingham, AL, March 2006.

Ruben Vuittonet and Jeff Gray, "Tic-Tac-LEGO: An Investigation into Coordinated Robotic Control," *44<sup>th</sup> ACM Southeast Conference*, Melbourne, FL, March 2006.  
**(Poster Award – 3<sup>rd</sup> Place)**

Yuehua Lin and Jeff Gray, "A Comprehensive Model Transformation Approach to Automated Model Construction and Evolution," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, San Diego, CA, October 2005.

Jing Zhang and Jeff Gray (served as advisor on this student poster), "Metamodel-Driven Model Interpreter Evolution," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, San Diego, CA, October 2005.

Xiaoqing Wu, Barrett R. Bryant, Jeff Gray, and Marjan Mernik (served as co-advisor on this student poster), "Pattern Transformation for Two-Dimensional Separation of Concerns," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, San Diego, CA, October 2005.

Shih-Hsi Liu, Barrett R. Bryant, Jeff Gray, Rajeev R. Raje, Mihran Tuceryan, Andrew M. Olson, and Mikhail Auguston (served as co-advisor on this student poster), "A Software Product Line Architecture for Distributed Real-time and Embedded Systems: A Separation of Concerns Approach," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, San Diego, CA, October 2005.

Hui Wu, Jeff Gray, and Marjan Mernik, "Grammar-Driven Generation of Domain-Specific Language Testing Tools," *Eclipse Technology eXchange (ETX)*, held at *OOPSLA 2005*, San Diego, CA, October 2005.

Suman Roychoudhury and Jeff Gray (served as advisor on this student poster), "Separating Crosscutting Concerns in Scientific Computing through Program Transformations," *Aspect-Oriented Software Development Student Poster Extravaganza*, Chicago, IL, March 2005.

Shih-Hsi Liu, Barrett Bryant, Jeff Gray, Rajeev Raje, Andrew Olson, Mikhail Auguston, "Two-Level Assurance of QoS Requirements for Distributed Realtime and Embedded Systems," *ACM Symposium for Applied Computing (SAC) – Embedded Systems Track*, Santa Fe, NM, March 2005.

Jing Zhang and Jeff Gray (served as advisor on this student poster), "Supporting Software Evolution through Model-Driven Program Transformation," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Vancouver, BC, October 2004.

Suman Roychoudhury and Jeff Gray (served as advisor on this student poster), "A Language-Independent Approach to Software Maintenance Using Grammar Adapters," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Vancouver, BC, October 2004.

Hui Wu, Jeff Gray, and Marjan Mernik, "Debugging Domain-Specific Languages in Eclipse," *Eclipse Technology eXchange (ETX)*, held at *OOPSLA 2004*, Vancouver, BC, October 2004.

Yuehua Lin, Song Zhou, Chuanxi Xu, Hui Wu, Jing Zhang, Juanqin Wang, Jeff Gray, and Barrett Bryant, "E-R Modeler: A Database Modeling Toolkit for Eclipse," *Eclipse Technology eXchange (ETX)*, held at *OOPSLA 2003*, Anaheim, CA, October 2003.

Shairaj Shaik, Raymond Corvin, Rajesh Sudarsan, Faizan Javed, Qasim Ijaz, Suman Roychoudhury, Jeff Gray, and Barrett Bryant, "SpeechClipse - An Eclipse Speech Plug-In," *Eclipse Technology eXchange (ETX)*, held at *OOPSLA 2003*, Anaheim, CA, October 2003.

Beum-Seuk Lee, Xiaoqing Wu, Fei Cao, Shih-hsi Liu, Wei Zhao, Chunmin Yang, Barrett R. Bryant, and Jeffrey G. Gray, "T-Clipse: an Integrated Development Environment for Two-Level Grammar," *Eclipse Technology eXchange (ETX)*, held at *OOPSLA 2003*, Anaheim, CA, October 2003.

Jeff Gray, Matti Rossi, and Juha-Pekka Tolvanen, "Third OOPSLA Workshop on Domain-Specific Modeling," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Anaheim, CA, October 2003.

Juha-Pekka Tolvanen, Jeff Gray, and Matti Rossi, "Results from the Second Workshop on Domain-Specific Visual Languages," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Seattle, WA, November 2002.

Jeff Gray, Ted Bapty, Sandeep Neema, and James Tuck, "Handling Crosscutting Constraints in Domain-Specific Modeling," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Tampa, FL, October 2001.

Juha-Pekka Tolvanen, Jeff Gray, Steven Kelly, and Kally Lyytinen, "Domain-Specific Visual Languages," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Tampa, FL, October 2001.

#### *Tutorials*

Jeff Gray and Cameron McKinley, "Game Programming for Kids? It's Elementary using Alice and Scratch" *Alabama Educational Technology Conference*, Birmingham, AL, June 19, 2008.

Cameron McKinley (Alabama Teacher of the Year) and Jeff Gray, "Game Programming for Kids? It's Elementary using Alice and Scratch" *Alabama Educational Technology Conference*, Birmingham, AL, June 14, 2007.

Ira Baxter and Jeff Gray, "Automated Program and Model Transformation Technology," *OMG's Architecture Design Modernization (ADM) Workshop*, Alexandria, VA, October 2005.

#### *Doctoral Symposia*

Jeff Gray, "Using Software Component Generators to Construct a Meta-Weaver Framework," *International Conference on Software Engineering (ICSE)*, Toronto, Canada, May 2001.

Jeff Gray, "A Framework for Creating Aspect Weavers," *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Tampa, FL, October 2001.

#### *Ph.D. Dissertation*

Jeffrey G. Gray, *Aspect-Oriented Domain-Specific Modeling: A Generative Approach Using a Metaweaver Framework*, Ph.D. Dissertation, Department of Electrical Engineering and Computer Science, Vanderbilt University, Nashville, TN, March 2002.

#### *Masters Thesis*

Jeffrey G. Gray, *The Role of Reuse in Introducing Software Engineering Principles in a Computer Science Second Course*, M.S. Thesis, Department of Statistics and Computer Science, West Virginia University, Morgantown, WV, May 1993.

## Professional Activities

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- Professional Organization*      Chair of the *Alabama IEEE Computer Society* (2004-Present)
- Steering Committees*      *International Conference on Model Transformation* (2008-present)  
   *OOPSLA Workshop on Domain-Specific Modeling* (2001-present)  
   *International Workshop on Aspect-Oriented Modeling* (2003-present)
- Editorial Boards*      **Journal Editor**  
   Editor for the *Journal of Software and Systems Modeling (SoSym)*, 2008-present
- Editorial Advisory Board**  
   Book: *Model-Driven Domain Analysis and Software Development: Architectures and Functions*, (Janis Osis and Erika Asnina, editors), IGI Global, 2010.
- Editorial Advisory Board**  
   Book: *Methodologies for Non-Functional Requirements in Service-Oriented Architecture*, (Jun Suzuki, editor), IGI Global, 2009.
- External Committees*      **Organizing Committee (Program co-Chair)**  
   *Software Language Engineering (SLE)*, Denver, CO, October 2009.
- Program Committee**  
   *Model-Driven Engineering Languages and Systems (MODELS)*, Denver, CO, October 2009.
- Program Committee**  
   *Educator Symposium*, a workshop held at *Model-Driven Engineering Languages and Systems (MODELS)*, Denver, CO, October 2009.
- Doctoral Symposium Committee Member**  
   *Doctoral Symposium*, a workshop held at *Model-Driven Engineering Languages and Systems (MODELS)*, Denver, CO, October 2009.
- Program Committee**  
   *IEEE Symposium on Visual Languages and Human-Centric Computing*, Corvallis, Oregon, September 2009.
- Program Committee**  
   *Workshop on Visual Languages and Environments in Software Engineering (VLE-SE)*, a workshop held at the *International Conference on Distributed Multimedia Systems (DMS)*, San Francisco, CA, September 2009.
- Steering Committee and Program Committee**  
   *International Conference on Model Transformation*, Zurich, Switzerland, July 2009.
- Program Committee**  
   *TOOLS Europe*, Zurich, Switzerland, July 2009.

**Program Committee**

*IFIP Working Conference on Domain Specific Languages (DSL WC)*, Oxford, England, July 2009.

**Scientific Committee**

*Generative and Transformational Techniques in Software Engineering (GTTSE 2009)*, Braga, Portugal, July 2009.

**Program Committee**

*International Workshop of Software Engineering for Adaptive Service-oriented Systems (SEASS)*, a workshop held at the *World Congress on Services (SERVICES)*, Los Angeles, CA, July 2009.

**Program Committee**

*Workshop on Domain Engineering*, a workshop held at the *International Conference on Advanced Information Systems (CAiSE)*, Amsterdam, The Netherlands, June 2009.

**Program Committee**

*2nd International Workshop on Cyber-Physical Systems*, a workshop held at the *International Conference on Distributed Computing*, Montreal, Canada, June 2009.

**Program Committee**

*Modeling in Software Engineering*, a workshop held at the *International Conference on Software Engineering (ICSE)*, Vancouver, Canada, May 2009.

**Program Committee**

*First International Workshop on Domain Engineering*, a workshop held at the *International Conference on Software Engineering (ICSE)*, Vancouver, Canada, May 2009.

**Program Committee**

*6th International Conference on Information Technology: New Generations, Special Track on Software Specification and Modeling: Techniques, Tools, and Applications*, Las Vegas, NV, April 2009.

**Organizing Chair**

*Aspect-Oriented Software Development*, Charlottesville, VA, March 2009.

**Program Committee**

*Human-Computer Interaction*, a track at the 24<sup>th</sup> annual *ACM Symposium on Applied Computing (SAC)*, Honolulu, HI, March 2009.

**Program Committee**

*Symposium on Practical Applications of Declarative Languages (PADL)*, a co-located event at the *Symposium on Principles of Programming Languages (POPL)*, Savannah, GA, January 2009.

**Program Committee**

*Distributed Objects, Middleware, and Applications (DOA)*, Monterey, Mexico, November 2008.

**Program Committee and Session Chair**

*Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Nashville, TN, October 2008.

**Organizing Committee**

*Domain-Specific Modeling*, a workshop held at *OOPSLA*, Nashville, TN, October 2008.

**Program Committee**

*Modularization, Composition and Generative Techniques for Product Line Engineering (McGPLe)*, a workshop held at *GPCE*, Nashville, TN, October 2008.

**Expert Review Panel**

*Model-Driven Engineering Languages and Systems (MODELS)*, Toulouse, France, October 2008.

**Program Committee**

*Model-Driven Engineering Languages and Systems (MODELS)*, Tutorials Selection Committee, Toulouse, France, October 2008.

**Organizing Committee**

*First International Workshop on Model Co-Evolution and Consistency Management*, a workshop held at *MODELS*, October 2008, Toulouse, France, October 2008.

**Program Committee**

*Models@Run.Time*, a workshop held at *MODELS*, October 2008, Toulouse, France, October 2008.

**Program Committee**

*Software Language Engineering (SLE)*, Toulouse, France, October 2008.

**Program Committee**

*IEEE Symposium on Visual Languages and Human-Centric Computing*, Herrsching am Ammersee, Germany, September 2008.

**Program Committee**

*Early Aspects*, a workshop held at the *Software Product Line Conference (SPLC)*, Limerick, Ireland, September 2008.

**Program Committee**

*International Workshop on Coordination of Domain-Specific Languages (CDSL)*, a workshop held at the *International Conference on Automated Software Engineering (ASE)*, L'Aquila, Italy, September 2008.

**Program Committee**

*International Workshop on Models and Model-driven Methods for Enterprise Computing (3M4EC)*, a workshop held at the *Twelfth IEEE International EDOC Conference*, Munchen, Germany, September 2008.

**Organizing Committee (Program Co-Chair)**

*International Conference on Model Transformation*, Zurich, Switzerland, July 2008.

**Program Committee**

*TOOLS Europe*, Zurich, Switzerland, July 2008.

**Organizing Committee**

*Model-Based Software Engineering (MBSE)*, a special session of *SEKE*, San Francisco, CA, July 2008.

**Program Committee**

*Software Architecture Research and Practice*, a session held at the *International Conference on Digital Telecommunications*, Bucharest, Romania, July 2008.

**Program Committee**

*First IEEE International Workshop on Model-Driven Development of Autonomic Systems (MDDAS)*, a workshop held at the *IEEE Computer Software and Applications Conference (COMPSAC)*, Turku, Finland, July/August 2008.

**Program Committee**

*Ninth International Conference on Rule-Based Programming (RULE)*, a workshop held at the *International Conference on Rewriting Technologies and Applications (RTA)*, Hagenberg, Austria, July 2008.

**Program Committee**

*World Conference on Integrated Design and Process Technology*, Taichung, Taiwan, June 2008.

**Program Committee**

*First International Workshop on Cyber-Physical Systems*, a workshop held at the *International Conference on Distributed Computing Systems (ICDCS)*, Beijing, China, June 2008.

**Program Committee**

*Model-Driven Enterprise Information Systems (MDEIS)*, a workshop held at the 10<sup>th</sup> *International Conference on Enterprise Information Systems (ICEIS)*, Barcelona, Spain, June 2008.

**Program Committee**

*European Conference on Model-Driven Architecture - Foundations and Applications (ECMDA)*, Berlin, Germany, June 2008.

**Program Committee**

*Modeling in Software Engineering*, a workshop held at the *International Conference on Software Engineering (ICSE)*, Leipzig, Germany, May 2008.

**Program Committee**

*3rd Workshop on Graph and Model Transformation (GraMoT)*, a workshop held at the *International Conference on Software Engineering (ICSE)*, Leipzig, Germany, May 2008.

**Program Committee**

*Aspect-Oriented Software Development*, Brussels, Belgium, April 2008.

**Organizing Committee**

*12th International Workshop on Aspect-Oriented Modeling*, a workshop held at *AOSD*, Brussels, Belgium, April 2008.

**Program Committee**

*7th International Workshop on Aspects, Components, and Patterns for Infrastructure Software (ACP4IS)*, a workshop held at *AOSD*, Brussels, Belgium, April 2008.

**Program Committee**

*Early Aspects*, a workshop held at *AOSD*, Brussels, Belgium, April 2008.

**Program Committee**

*5th International Conference on Information Technology: New Generations, Special Track on Software Specification and Modeling: Techniques, Tools, and Applications*, Las Vegas, NV, April 2008.

**Program Committee**

*46th ACM Southeast Conference*, Auburn, AL, March 2008.

**Program Committee**

*International Symposium on Distributed Objects and Applications (DOA)*, Iberian Peninsula and Islands, October/November 2007.

**Student Research Paper Judge and Session Chair**

*ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2007.

**Organizing Committee**

*Workshop on Automating Service Quality (WRASQ)*, a workshop held at ASE, Atlanta, GA, November 2007.

**Organizing Committee**

*Model-Driven Engineering Languages and Systems (MoDELS)*, Tutorials Chair, Nashville, TN, October 2007.

**Organizing Committee**

*11th International Workshop on Aspect-Oriented Modeling*, a workshop held at MODELS, Nashville, TN, October 2007.

**Program Committee and Session Chair**

*International Workshop on Meta-models, Schemas and Grammars and Ontologies for Reverse Engineering*, a workshop held at MODELS, Nashville, TN, October 2007.

**Organizing Committee**

*Domain-Specific Modeling*, a workshop held at OOPSLA, Montreal, Canada, October 2007.

**Program Committee**

*Second Workshop on Aspect-Oriented Product Line Engineering*, a workshop held at GPCE, Salzburg, Austria, October 2007.

**Program Committee**

*Fourth Brazilian Workshop on Aspect-Oriented Software Development (WASP '07)*, Joao Pessoa, Brasil, October 2007.

**Program Committee**

*The First International Workshop on Software Architecture Research and Practice*, a workshop held at the *International Conference on Digital Telecommunications*, San Jose, CA, July 2007.

**Scientific Committee**

*Generative and Transformational Techniques in Software Engineering (GTTSE 2007)*, Braga, Portugal, July 2007.

**Program Committee**

*Software Engineering for Adaptive Software Systems (SEASS)*, a workshop held at COMPSAC, Beijing, China, July 2007.

**Program Committee**

*TOOLS Europe*, Zurich, Switzerland, June 2007.

**Organizing Committee**

*Model-Driven Development Tool Implementers Forum (MDD-TIF)*, a workshop held at *TOOLS Europe*, Zurich, Switzerland, June 2007.

**Program Committee**

*Tower of Models Workshop*, a workshop held at *TOOLS Europe*, Zurich, Switzerland, June 2007.

**Program Committee**

*Model-Driven Enterprise Information Systems (MDEIS)*, a workshop held at the 9<sup>th</sup> *International Conference on Enterprise Information Systems (ICEIS)*, Madeira Island, Portugal, June 2007.

**Program Committee**

*European Conference on Model-Driven Architecture - Foundations and Applications (ECMDA-FA)*, Haifa, Israel, June 2007.

**Program Committee**

*RULE*, a workshop held at the *Federated Conference on Rewriting, Deduction, and Programming (RDP)*, Paris, France, June 2007.

**Program Committee**

*International Conference on Software Engineering Research and Practice (SERP)*, Las Vegas, NV, June 2007.

**Program Committee**

*European Conference on Model Driven Architecture Foundations and Applications*, Haifa, Israel, June 2007.

**Program Committee**

*Modeling in Software Engineering*, a workshop held at the *International Conference on Software Engineering (ICSE)*, Minneapolis, MN, May 2007.

**Organizing Committee**

*Model Transformations*, a track at the 22<sup>nd</sup> annual *ACM Symposium on Applied Computing (SAC)*, Seoul, Korea, March 2007.

**Organizing Committee**

*10th International Workshop on Aspect-Oriented Modeling*, a workshop held at *AOSD*, Vancouver, BC, March 2007.

**Program Committee**

*Object-Oriented Programming Languages and Systems*, a track at the 22<sup>nd</sup> annual *ACM Symposium on Applied Computing (SAC)*, Seoul, Korea, March 2007.

**Program Committee**

*Model-Based Design for Embedded Systems*, a workshop held at *Design Automation and Test in Europe*, Nice, France, March 2007.

**Program Committee**

*10<sup>th</sup> International Workshop on Early Aspects*, a workshop held at the *International Conference on Aspect-Oriented Software Development*, Vancouver, BC, March 2007.

**Organizing Committee**

*Adaptive and Evolvable Software Systems*, a mini-track to the Software Technology Track for HICSS-40, Big Island, HI, January 2007.

**Program Committee**

*Components for Embedded and Real-Time Systems*, a mini-track to the Software Technology Track for HICSS-40, Big Island, HI, January 2007.

**Program Committee**

*MOdel Driven Development for Middleware (MODDM)*, a workshop held at the *Middleware* conference, Melbourne, Australia, November/December 2006.

**Student Research Paper Judge and Session Chair**

*ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2006.

**Student Research Paper Judge**

*Consortium for Computer Sciences in Colleges*, Nashville TN, October 2006.

**Program Committee and Session Chair**

*Generative Programming and Component Engineering (GPCE)*, Portland, OR, October 2006.

**Organizing Committee**

*Generative Programming and Component Engineering for QoS Provisioning in Distributed Systems*, a workshop held at *GPCE*, Portland, OR, October 2006.

**Program Committee**

*First Workshop on Aspect-Oriented Product Line Engineering*, a workshop held at *GPCE*, Portland, OR, October 2006.

**Organizing Committee**

*Domain-Specific Modeling*, a workshop held at *OOPSLA*, Portland, OR, October 2006.

**Program Committee**

*International Symposium on Distributed Objects and Applications (DOA)*, Montpellier, France, October/November 2006.

**Organizing Committee**

*International Workshop on Models for Enterprise Computing (IWMEC 2006)*, a workshop held at the *EDOC* conference, Hong Kong, China, October 2006.

**Organizing Committee**

*9th International Workshop on Aspect-Oriented Modeling*, a workshop held at *MODELS*, Genova, Italy, October 2006.

**Program Committee**

*International Workshop on Meta-models, Schemas and Grammars and Ontologies for Reverse Engineering*, a workshop held at *MODELS*, Genova, Italy, October 2006.

**Program Committee**

*Third Brazilian Workshop on Aspect-Oriented Software Development (WASP '06)*, Florianópolis, Santa Catarina, Brasil, October 2006.

**Program Committee**

*International Workshop on Graph and Model Transformation*, a workshop held at *VL/HCC*, Brighton, UK, September 2006.

**Program Committee**

*1st ECOOP Workshop on Domain-Specific Program Development*, a workshop held at *ECOOP*, Nantes, France, July 2006.

**Program Committee**

*European Workshop on Composition of Model Transformations*, a workshop held at *European Conference on Model-Driven Architecture*, Bilbao, Spain, July 2006.

**Program Committee**

*Aspect-Based and Model-Based Separation of Concerns in Software Systems*, a workshop held at *European Conference on Model-Driven Architecture*, Bilbao, Spain, July 2006.

**Program Committee**

*Fist International Workshop on Global Integrated Model Management*, a workshop held at the *International Conference on Software Engineering (ICSE)*, Shanghai, China, May 2006.

**Program Committee**

*Model-Driven Enterprise Information Systems (MDEIS)*, a workshop held at the *8<sup>th</sup> International Conference on Enterprise Information Systems (ICEIS)*, Paphos, Cyprus, May 2006.

**Program Committee**

*Model Transformations*, a track at the 21<sup>st</sup> annual *ACM Symposium on Applied Computing (SAC)*, Dijon, France, April 2006.

**Program Committee**

*Object-Oriented Programming Languages and Systems*, a track at the 21<sup>st</sup> annual *ACM Symposium on Applied Computing (SAC)*, Dijon, France, April 2006.

**Organizing Committee**

*8<sup>th</sup> International Workshop on Aspect-Oriented Modeling*, a workshop held at the *International Conference on Aspect-Oriented Software Development (AOSD)*, Bonn, Germany, March 2006.

**Program Committee**

*IEEE International Symposium on the Engineering of Computer-Based Systems (ECBS)*, Potsdam, Germany, March 2006.

**Organizing Committee**

*Adaptive and Evolvable Software Systems: Techniques, Tools, and Applications*, a mini-track to the Software Technology Track for HICSS-39, Kuauai, HI, January 2006.

**Program Committee**

*The 26th IEEE Real-Time Systems Symposium (RTSS)*, track on “Real-Time Middleware and Software Engineering,” Miami, FL, December 2005.

**Program Committee**

*1<sup>st</sup> Workshop on Aspect-Based and Model-Based Separation of Concerns in Software System*, a workshop held at the *European Conference on Model Driven Architecture - Foundations and Applications*, Nuremberg, Germany, November 2005.

**Program Committee**

*International Symposium on Distributed Objects and Applications (DOA)*, Agia Napa, Cyprus, November 2005.

**Student Research Paper Judge**

*ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2005.

**Program Committee**

*eclipse Technology Exchange (eTX) Workshop*, a workshop held at *OOPSLA*, San Diego, CA, October 2005.

**Organizing Committee**

*International Workshop on Software Factories*, a workshop held at *OOPSLA*, San Diego, CA, October 2005.

**Program Committee**

*Domain-Specific Modeling*, a workshop held at *OOPSLA*, San Diego, CA, October 2005.

**Program Committee**

*The 3<sup>rd</sup> Workshop on Java Technologies for Real-time and Embedded Systems*, a workshop held at *OOPSLA*, San Diego, CA, October 2005.

**Doctoral Symposium Chair**

*Model-Driven Engineering Languages and Systems (MODELS)* - formerly, the UML Conference, Montego Bay, Jamaica, October 2005.

**Organizing Committee**

*7<sup>th</sup> International Workshop on Aspect-Oriented Modeling*, a workshop held at *MODELS*, Montego Bay, Jamaica, October 2005.

**Program Committee**

*Model-Driven Development for Software Product Lines*, a workshop held at *MODELS*, Montego Bay, Jamaica, October 2005.

**Program Committee and Session Chair**

*OMG's Architecture Design Modernization (ADM) Workshop*, Alexandria, VA, October 2005.

**Program Committee**

*Second Brazilian Workshop on Aspect-Oriented Software Development (WASP '05)*, Uberlândia City, Minas Gerais, Brasil, October 2005.

**Organizing Committee**

*ACM Conference on Generative Programming and Component Engineering (GPCE)*, Tutorials and Workshop Chair, Tallinn, Estonia, September 2005.

**Program Committee**

*Graph and Model Transformation*, a workshop held at *GPCE*, Tallinn, Estonia, September 2005.

**Program Committee**

*Aspects and Software Product Lines: An Early Aspects Workshop*, a workshop held at *SPLC-Europe*, Rennes, France, September 2005.

**Scientific Committee**

*Generative and Transformational Techniques in Software Engineering (GTTSE 2005)*, Braga, Portugal, July 2005.

**International Scientific Program Committee**

*International Embedded and Hybrid Systems Conference*, Singapore, April 2005.

**Program Committee**

*IEEE International Symposium on the Engineering of Computer-Based Systems (ECBS)*, Washington, DC, April 2005.

**Organizing Committee**

*Aspect-Oriented Modeling*, a workshop at the *International Conference on Aspect-Oriented Software Development (AOSD)*, Chicago, IL, March 2005.

**Birds of a Feather Organizer**

*Teaching Aspects*, a BoF at the *International Conference on Aspect-Oriented Software Development (AOSD)*, Chicago, IL, March 2005.

**Program Committee**

*Object-Oriented Programming Languages and Systems*, a track at the 20th annual *ACM Symposium on Applied Computing (SAC)*, Santa Fe, NM, March 2005.

**Program Committee**

*Model-Driven Real-Time and Embedded Systems* track at the *11th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2005)*, San Francisco, CA, March 2005.

**Organizing Committee**

*Southeastern Software Engineering Conference*, Huntsville, AL, March 2005.

**Session Judge**

*UAB Graduate Research Day*, March 2005.

**Organizing Chair**

*Adaptive and Evolvable Software Systems: Techniques, Tools, and Applications*, a mini-track to the Software Technology Track for HICSS-38, Big Island, HI, January 2005.

**Session Chair**

*38<sup>th</sup> HICSS Track on Distributed Object and Component-Based Software Systems*, Big Island, HI, January 2005.

**Program Committee**

*International Workshop on Meta-models, Schemas and Grammars for Reverse Engineering*, a workshop at the *11th International Conference on Reverse Engineering*, Delft, The Netherlands, November 2004.

**Head Organizing Judge**

*ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2004.

**Program Committee**

*Domain-Specific Modeling*, a workshop held at *OOPSLA*, Vancouver, BC, October 2004.

**Organizing Committee and Session Chair**

*ACM Conference on Generative Programming and Component Engineering (GPCE)*, Tutorials Chair, Vancouver, BC, October 2004.

**Program Committee**

*Brazilian Workshop on Aspect-Oriented Software Development*, Brasilia, Brazil, October 2004.

**Program Committee**

*UML Conference*, Lisbon, Portugal, October 2004.

**Organizing Committee**

*Aspect-Oriented Modeling with UML*, a workshop held at the *UML Conference*, Lisbon, Portugal, October 2004.

**Program Committee**

*OMG's 1<sup>st</sup> Annual Model Integrated Computing (MIC) Workshop*, Washington, D.C., October 2004.

**Organizing Committee**

*Model-Driven Evolution of Legacy Systems: Tools and techniques to facilitate development of adaptable enterprise systems*, a workshop held at the *EDOC Conference*, Monterey, CA, September 2004.

**Program Committee**

*Fourth Workshop on TAO and CIAO*, Washington, D.C, July 2004.

**Program Committee**

*IEEE International Symposium on the Engineering of Computer-Based Systems (ECBS)*, Brno, Czech Republic, May 2004.

**Program Committee**

*Workshop on Model-Driven Embedded Systems*, a workshop held at the *IEEE Real-time/Embedded Technology and Applications Symposium (RTAS)*, Toronto, Canada, May 2004.

**Session Chair**

*Southeast Software Engineering Conference Doctoral Symposium*, Huntsville, AL, March 2004.

**Program Committee**

*Aspects, Components, and Patterns for Infrastructure Software (ACP4IS)*, a workshop held at the *Aspect-Oriented Software Development (AOSD)* conference, March 2004.

**Program Committee**

*Object-Oriented Programming Languages and Systems*, a special track at the 19th annual *ACM Symposium on Applied Computing (SAC)*, Nicosia, Cyprus, March 2004.

**Program Committee and Session Chair**

*ACM Southeast Conference*, Huntsville, AL, March 2004.

**Organizing Chair**

*Adaptive and Evolvable Software Systems: Techniques, Tools, and Applications*, a mini-track to the Software Technology Track for HICSS-37, Big Island, HI, January 2004.

**Session Chair**

*37<sup>th</sup> HICSS Track on Distributed Object and Component-Based Software Systems*, Big Island, HI, January 2004.

**Head Organizing Judge**

*ACM Mid-Southeast Conference*, Gatlinburg, TN, November 2003.

**Organizing Chair**

*Domain-Specific Modeling*, a workshop held at *OOPSLA*, Anaheim, CA, October 2003.

**Organizing Committee**

*Aspect-Oriented Modeling with UML*, a workshop held at the *UML Conference*, San Francisco, CA, October 2003.

**Program Committee and Session Chair**

*UML Conference*, San Francisco, CA, October 2003.

**Organizing Committee**

*Third Workshop on Domain-Specific Visual Languages*, workshop at the conference on *Generative Programming and Component Engineering (GPCE)*, Erfurt, Germany, September 2003. (workshop merged with *OOPSLA DSM 2003*).

**Program Committee**

*Workshop on Model-Driven Embedded Systems*, a workshop held at the *IEEE Real-time/Embedded Technology and Applications Symposium (RTAS)*, Washington, D.C., May 2003.

**Program Committee**

*IEEE International Symposium on the Engineering of Computer-Based Systems (ECBS)*, Huntsville, AL, April 2003.

**Program Committee and Doctoral Symposium Panelist**

*Southeastern Software Engineering Conference*, Huntsville, AL, April 2003.

**Organizing Committee**

*International Conference on Aspect-Oriented Software Development*, Workshops Co-Chair, Boston, MA, March 2003.

**Session Chair**

*36<sup>th</sup> HICSS Track on Distributed Object and Component-Based Software Systems*, Big Island, HI, January 2003.

**Judging Committee**

*ACM Mid-Southeast Conference*, Lead judge – Masters paper division, Gatlinburg, TN, November 2002.

**Organizing Committee**

*Second Workshop on Domain-Specific Visual Languages*, a workshop held at *OOPSLA 2002*, Seattle, WA, October 2002.

**Organizing Committee**

*Early Aspects: Aspect-Oriented at Early Software Development Stages*, a workshop held at the *First International Conference on Aspect-Oriented Software Development*, Enschede, The Netherlands, April 2002.

**Local Organizing Committee**

*NSF Workshop on New Visions for Software Design and Productivity: Research and Applications*, Nashville, TN, December 2001.

**Publicity Chair and Organizing Committee**

*Workshop on Domain-Specific Visual Languages*, a workshop held at *OOPSLA 2001*, Tampa, FL, October 2001.

*Advisory Boards*

Board of Directors, *Alabama Mathematics, Science, Technology and Education Coalition* – AMSTEC (2007-present)

External Research and Technical Advisory Board for the *Nevada Infrastructure for Climate Change Science, Education, and Infrastructure*, Funded by NSF, \$15M (2008-present).

Member of the *Magnolia Festival Scholarship Selection Committee* (2007).

Appointed to the *Gardendale Citizens Education Committee* (2007-present)

Advisor to *ReMoDD: A Repository for Model Driven Development*, an NSF project under investigation by Drs. Robert France, Betty Cheng, and James Bieman (2006-present)

Board of Directors, Magic City Technology Council (2006)

Advisory Committee Member, Bessemer Center for Technology (2006-2007)

*Reviewer-Conferences*

*ACM Southeast Conference*, Atlanta, GA, March 2005.

Bioinformatics Track at the *ACM Symposium on Applied Computing (SAC)*, Nicosia, Cyprus, March 2004.

*37<sup>th</sup> HICSS Track on Distributed Object and Component-Based Software Systems*, Big Island, HI, January 2004.

*Enterprise Distributed Object Computing Conference*, Brisbane, Australia, September 2003.

*ACM International Middleware Conference*, Rio de Janeiro, Brazil, June 2003.

*36<sup>th</sup> HICSS Track on Distributed Object and Component-Based Software Systems*, Big Island, HI, January 2003.

*Reviewer-Grants*

Served as NSF CISE reviewer:

Spring 2008 (CISE-CPA)

Fall 2007 (CISE-CPA)

Spring 2007 (CISE-CSR)

Summer 2005 (CISE-CSR)

Spring 2004 (CISE-CSR)

Served as reviewer for Science Foundation Ireland, Fall 2008.

Served as reviewer for the Austrian Science Fund, Fall 2008.

Served as reviewer for *Le Fonds québécois de la recherche sur la nature et les technologies*, Québec, Canada, Spring 2006.

Served as Tennessee DEPSCOR Reviewer, Fall 2004.

- Reviewer-Books*
- Behavioral Modeling for Embedded Systems and Technologies: Applications for Design and Implementation*, Idea Group, 2009.
- Designing Software-Intensive Systems: Methods and Principles*, Idea Group, 2008.
- Reviewer for Wiley & Sons on several book proposals (2 in 2005).
- Model-driven Software Development - Volume II of Research and Practice in Software Engineering*, Springer-Verlag, 2005.
- Object-Oriented Analysis and Design*, Stephen R. Schach, McGraw-Hill, 2003.
- Building Application Frameworks: Object-Oriented Foundations of Framework Design*, Mohamed Fayad, Doug Schmidt, and Ralph Johnson, eds., John Wiley & Sons, 1999.
- Reviewer-Journals*
- Communications of the ACM* (Regular reviewer, in addition to below)  
 Special Issue on Object Technology (1996)  
 Special Issue on Frameworks (1997)  
 Special Issue on Aspect-Oriented Programming (2001)
- IEEE Computer* (Regular reviewer, in addition to below)  
 Special Issue on Model-Driven Engineering (2006)  
 Special Issue on Models at Runtime (2009)
- IEEE Transactions on Software Engineering* (Regular reviewer, in addition to below)  
 Special Issue on Software Language Engineering (2008)
- IEEE Software* (Regular reviewer, in addition to below)  
 Special issue on Domain-Specific Languages and Modeling (2009)  
 Special issue on End-User Software Engineering (2009)
- Transactions on Aspect-Oriented Software Development* (Regular reviewer, in addition to below)  
 Special Issue on Aspects for Systems Software and Middleware (2005)  
 Special Issue on Aspects for Software Evolution (2006)  
 Special Issue on Early Aspects (2006)  
 Special Issue on Aspects, Dependencies and Interactions (2007)  
 Special Issue on Aspects and MDE (2008)
- ACM Transactions on Software Engineering and Methodology* (Regular reviewer)
- Software and System Modeling* (Regular reviewer and Associate Editor)  
 Special Issue on Graph Transformations and Visual Modeling Techniques (2004)  
 Special Issue on the Best of UML (2004)  
 Special Issue on the Best of MODELS (2007)  
 Special Issue on Metamodeling (2007)
- Science of Computer Programming* (Regular reviewer)
- Software: Practice and Experience* (Regular reviewer)
- ACM Computing Surveys* (Regular reviewer)
- IBM Systems Journal* (2007)
- Journal of Visual Languages and Computing*  
 Special Issue on Visual Interactions in Software Artifacts (2007)

- IEEE Transactions on Computers*  
Special Issue on Speech-based Human-Computer Interaction (2007)
- ACM Transactions on Modeling and Computer Simulation* (2007)
- IEEE Internet Computing*  
Special Issue on Dependable Service-Oriented Computing (2008)
- ACM Transactions on Internet Technology*  
Special Issue on Middleware for Service-Oriented Computing (2006)
- Simulation: Transactions of the Society for Modeling & Simulation* (Regular reviewer)
- International Journal of Software Engineering* (2008)
- The Computer Journal (British Computer Society)*  
Special Issue on Aspect-Oriented Programming (2003)
- IET Software*  
Special Issue on Early Aspects: Aspect-Oriented Requirements Engineering and Architecture Design (2004)  
Special Issue on Composition of Model Transformations (2007)  
Special Issue on Domain-Specific Aspect Languages (2007)  
Special Issue on Language Engineering (2008)
- Journal of Object Technology* (Regular reviewer)
- International Journal of Computers and Applications* (Regular reviewer)
- Transactions of the South African IEEE*  
Special Issue on Software Engineering (1996)
- Journal of the Brazilian Computer Society*  
Special Issue on Aspect-Oriented Software Development (2004)
- Offices*
- Vanderbilt Computer Science Graduate Student Organization (CSGSO)**  
President (1997), Treasurer (1996), Faculty Meeting Representative (1995)
- WVU Student Chapter of the ACM**  
Vice-President (1991)
- Science-Fair*
- Central Alabama Science and Engineering Fair**  
Served as judge for the computer science division, 2005.
- Judging*
- Middle Tennessee Science and Engineering Fair**  
Served as judge for the computer science division, 1999-2001.
- Conferences/  
Meetings  
Attended*
- ACM OOPSLA – attended every year from 1995 through 2008
  - ACM Generative Programming and Component Engineering 2002-2004, 2006, 2008
  - ACM Aspect-Oriented Software Development 2002, 2003, 2004, 2005, 2009
  - IEEE/ACM Intl. Conference on Software Engineering 2001, 2003, 2005, 2007
  - MODELS (formerly the <<UML>> Conference) 2003, 2005, 2007
  - Dagstuhl Workshop on Model Engineering of Complex Systems 2008
  - Google/CSTA K-12 Outreach Roadshow Workshop 2008
  - Hawaii International Conference on System Sciences 2003, 2004, 2005, 2007

- TOOLS Europe 2007, 2008
- ICMT 2008
- Automated Software Engineering 2007
- Microsoft Imagine Cup Finals 2009
- CMU Workshop on Alice 3 2009
- Alice Media Computation Workshop 2007
- Microsoft Research Faculty Summit (Redmond) 2005, 2006
- Microsoft Academic Days (Orlando) 2005
- Southeast Software Engineering Conference 2002, 2003, 2004, 2005
- IEEE Enterprise Distributed Object Computing Conference 2004
- ACM/USENIX Middleware Conference 2003
- IEEE Engineering of Computer-Based Systems 1999, 2003
- CORBA Real-Time CCM Meeting 2002, February 2003, December 2003
- IEEE International Symposium on OO Real-Time Distributed Computing 2002
- OMG Workshop on Architecture Driven Modernization 2005
- OMG Workshop on Model-Integrated Computing 2004
- OMG Workshop on Real-Time/Embedded DOC 2002
- CRA Academic Careers Workshop 2004
- DARPA PCES PI Meeting 7/00, 2/01, 5/01, 10/01, 4/02, 7/02, 12/02, 6/03, 12/03, 6/04, 12/04
- NSF ITEST Cohorts Meeting 2008
- NSF Broadening Participation in Computing Kickoff Meeting 2006
- NSF Regional Grants Conference 2002, 2006
- Governor's Summit on Mathematics and Science Education 2006
- O'Reilly Emerging Technology Conference 2002
- ACM Mid-Southeast Conference 1995, 1996, 1999, 2002 through 2007
- ACM Southeast Conference 2000, 2003, 2004
- Consortium for Computing Sciences in Colleges 2006
- 1<sup>st</sup> ACE/TAO Workshop 2001
- NSF Workshop on New Visions for Software Design/Productivity 2001
- ACM SIGSOFT Foundations of Software Engineering 2000
- IEEE Aerospace Conference 2000
- Boeing's Product Data Exchange Conference 2000
- Borland Developers Conference 1997
- SEI/CMU Annual Disciplined Engineering Workshop 1995
- ACM CSC/Computing Week (Student Volunteer) 1995
- Software Valley/WVU Reuse Workshop 1992
- ACM Tri-Ada 1988, 1989, 1993

## Awards & Honors

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*Non-Scholarly Awards*      *Gardendale Citizen of the Year (2008)*

*Graduate Awards*      Nominated as Vanderbilt's candidate (2002) for the *ACM Doctoral Dissertation Competition*

1995 recipient of the *IEEE Computer Society/Upsilon Pi Epsilon Honor Society Award for Academic Excellence* (see pg. 89 of *IEEE Computer*, June 1996)

- Teaching Awards*    Alabama Professor of the Year, *Carnegie Foundation for the Advancement of Teaching*, 2008-2009
- Selected as UAB's nominee for the CASE/Carnegie Professor of the Year, 2008
- Selected as the *Barnard Endowed Award* winner for 2006-2007, which recognizes "outstanding CIS faculty who exhibit high-quality instruction."
- Nominated by the CIS Department for the Presidential Teaching Award, 2006
- Vanderbilt University Computer Science Teaching Assistant of the Year (1994-1995)
- Conference Paper Awards*    *Best Paper Award*, Transformation and Weaving Ontologies in Model-Driven Engineering (TWOMDE), a workshop held at *MODELS 2008*
- 3<sup>rd</sup> Place – Poster Award, *44<sup>th</sup> ACM Southeast Conference* (2006)
- Selected as one of the "Best Conference Papers" at *MODELS 2005*
- Both 1<sup>st</sup> and 3<sup>rd</sup> Place, *Alabama IEEE Best Paper of the Year Award* (2004)
- Best Conference Paper Award* at the *38<sup>th</sup> Annual ACM Southeast Conference* (2000)
- 1<sup>st</sup> place in the Doctoral Paper Division at the *ACM Mid-Southeast Conference* (1999)
- Travel Awards*    Received a \$1,000 travel scholarship from ACM to attend the SIGSOFT *Foundations of Software Engineering* conference in San Diego, CA (November 2000)
- Received numerous awards to attend ACM's OOPSLA conference
- Undergraduate Awards*    Designated a WVU Arts and Sciences Scholar (1990 and 1991), 1 of 15 from over 3,000 students in the college of Arts and Sciences (top 1 %)
- 1 of 2 WVU students nominated to participate in the Barry Goldwater Science Competition (1990 - sophomore year)
- Completed my undergraduate degree in three years while graduating *summa cum laude* from the West Virginia University Honors Program; Consistently made the Dean's List every semester of my undergraduate years.
- High School Science Awards*    My high school research paper was 1 of 25 international semi-finalists from over 1,000 entries in the *Edison/McGraw Science Search*. This paper was a Westinghouse award winner for the state of West Virginia during my senior year of high school. With a similar project, I won first place in computer science at the *West Virginia State Science and Engineering Fair* during my sophomore year.

## Academic Service

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- Courses*    New Course: CS 105 – Introduction to Game Programming Using Alice, each Fall  
 New Course: CS 497/597 - Competitive Programming Techniques (2004-2005)  
 New Course: CS 622/722 - Reflective & Adaptive Systems, each Fall  
 New Course: CS 620/720 - Advanced Software Engineering, each Spring  
 CS 201 – Object-Oriented Programming with Java, Summer 2004-2007

CS 697/796 - Directed Readings (various students), each Semester

CS 626/726 - Software Development Seminar

Fall 2002: Web Services and XMI

Spring 2003: Model-Driven Architecture

Summer 2003: Eclipse Plug-in Development

Fall 2003: Invasive Software Composition

Spring 2004: Program Transformation Systems

Summer 2004: .Net CLI

Fall 2004 and Spring 2005: Software Factories

Summer 2005: Microsoft Phoenix

Fall 2005: Software Performance Modeling

Spring 2006: Software Performance Modeling

Fall 2006: Model-Driven Software Development

Spring 2007: Design Rules

*Invited Lectures* “Enhancing the Lecture,” *GRD 705: Teaching at the College Level and Beyond*, February 16, 2009.

“Enhancing the Lecture,” *Excellence in Teaching: A Seminar Series for New Faculty*, January 28, 2009.

*Post-Doctoral Advising* January 2007-December 2007:  
Dr. Frédéric Jouault, Université de Nantes and INRIA.

*Visiting Students* August 2008-Present:  
Shaundra Daily, Ph.D. Student, MIT Media Laboratory.

*Student Advising* Advisor to eight Ph.D. Students:

Dr. Jane Lin (2002-2007)

*A Model Transformation Approach to Automated Model Evolution*

Dr. Hui Wu (2002-2007)

*Grammar-Driven Generation of Domain-Specific Language Testing Tools Using Aspects*

Dr. Suman Roychoudhury (2002-2008) – now at International University in Germany

*GenAWeave: A Generic Aspect Weaver Framework Based on Model-Driven Program Transformation*

Dr. Jing Zhang (2002-2009) – now at Motorola Research

*Model-Driven Aspect Adaptation to Support Modular Software Evolution*

In Progress: Robert Tairas (2006-present), Yu Sun (2007-present), Zekai Demirezen (2007-present), Dixon Shuttleworth (2008-present), Hyun Cho (2008-present)

Doctoral Dissertation Committee Member - UAB:

Dr. Fei Cao (2005) – now at Microsoft (Redmond)

Dr. Zhijie Guan (2005) – now at San Diego Supercomputer Center (SDSC)

Dr. Wei Zhao (2006) – now at Bear Stearns (New York)

Dr. Francisco Hernandez (2006) – now serving as a Post-doc in Sweden

Dr. Carl Wu (2007) – now at Countrywide Home Loans (Los Angeles)

Dr. Alex Liu (2007) – now at California State University, Fresno

Dr. Leonard Jowers (2007) – now at AuditSoft, Inc.

Dr. Faizan Javed (2007)

In Progress: Vijay Velusamy (2005-present), Ritu Arora (2007-present)

Doctoral Dissertation Committee Member - External:

Dr. Raul Silaghi (2007, Swiss Federal Inst. of Tech. in Lausanne – EPFL)

Dr. Marcos Didonet Del Fabro (2007, University of Nantes, France)

Dr. Krishnakumar Balasubramanian (2007, Vanderbilt University)

Dr. Gan Deng (2007, Vanderbilt University)

Dr. Susan Entwisle (2007, Monash University, Australia)

Dr. Antonio Cicchetti (2008, University of L'Aquila, Italy)

Dr. Jules White (2008, Vanderbilt University)

Dr. Amogh Kavimandan (2008, Vanderbilt University)

Dr. James Hill (2009, Vanderbilt University)

In Progress: Student of Professor Sergio Ochoa (2007-present, Universidad de Chile)

Masters Thesis Advisor:

Rajesh Sudarsan (2002-2004) – now at Virginia Tech

Masters Project Advisor:

Shairaj Shaik (2003-2004), Prem Somasundaram (2002-2004), Robert Tairas (2005), Zac Williams (2006), Amelia Hale (2006-2007), Rohit Shenvi (2006-2008)

Masters Thesis Committee Member:

Dimple Kaul (2007, Vanderbilt)

Crutcher Dunnivant (2004, UA-Tuscaloosa)

Murali Dhanakoti (2004, UAB ME)

Purvi Shah (2002-2003, UAB)

Undergraduate Research Mentor:

Timothy Uptain (2008-present), Amos Smith (2006-present), Mike Stueve (2007-2008), Ruben Vuittonet (2005-2006), Matthew Curry (2004), Victoria Davis (2004), Rachael Dennison (2003-2004), Pritesh Shah (2003-2004), and Bina Shah (2003-2004)

McNair Scholar Mentoring (undergraduate research mentor)

Dornesia Ward (2007 – Alabama State University)

High School Student Mentor:

Fall/spring 2008-2009: Robert Smyly and Oliver White

Fall/Spring 2007-2008: Robert Smyly

Fall/Spring 2006-2007: George Tankersley and Will Whitney

Summer 2006: Ryan Muller, Will Whitney, George Tankersley, Jace Brewster

Fall/Spring 2005-2006: Cameron Gillette, Jerrod Sutton

Summer 2005: A. Beavers, R. Muller, P. Talati, Sally Tao, Katrina Wright, Jia Zhang

Summer 2004: Matthew Ferguson and Erik Scott

*Student  
Accomplishments*

Served as mentor to the UAB team (Ritu Arora, Yu Sun, and Zekai Demirezen) that was selected as one of 15 teams invited to the *Microsoft Imagine Cup Finals* (Boston, 2009)

Suman Roychoudhury was selected as the CIS Department's nominee for the *ACM Doctoral Dissertation Competition* (2008)

Jane Lin was selected as the 2007 recipient of the Dean's Award

Yu Sun passed the first-level doctoral exam "With Distinction" (January 2009)

Robert Tairas passed the first-level doctoral exam "With Distinction" (January 2007)

Suman Roychoudhury passed the first-level doctoral exam "With Distinction" (January 2005)

Jing Zhang passed the first-level doctoral exam "With Distinction" (January 2004)

Jane Lin became the first person in our Department's history to pass the first-level doctoral exam "With Distinction" during her *first* year (January 2003)

Suman Roychoudhury won the "Best Speaker" award at the *2003 Alabama Academy of Science Student Paper Competition* (March 2003)

Yu Sun – 2<sup>nd</sup> Place at the *2008 UAB Graduate Student Research Day*

Robert Tairas – 1<sup>st</sup> (2006) and 3<sup>rd</sup> Place (2007) *UAB Graduate Student Research Day*

Jing Zhang – 1<sup>st</sup> Place at the *2005 UAB Graduate Student Research Day*

Suman Roychoudhury - 2<sup>nd</sup> Place (2004 and 2005) *UAB Graduate Student Research Day*

Advisees who received a CRA Undergraduate Honorable Mention:

Bina Shah (2003), Matthew Curry (2004)

At the *ACM Mid-Southeast Conference*, November 2007, Amos Smith was awarded 1<sup>st</sup> place in the undergraduate category.

At the *ACM Mid-Southeast Conference*, November 2005, Suman Roychoudhury was awarded 1<sup>st</sup> place at the Doctoral Division, Robert Tairas was awarded 1<sup>st</sup> place at the Masters Division, and Ruben Vuittonet was awarded 2<sup>nd</sup> place at the Undergraduate Division.

From a pool of 15 undergraduates from 7 states, Victoria Davis was awarded 2<sup>nd</sup> place at the *ACM Mid-Southeast Conference*, November 2004.

From a pool of 42 student papers (among numerous institutions in the southeast) at the *ACM Mid-Southeast Conference*, November 2003, Suman Roychoudhury was awarded 3<sup>rd</sup> place in the Doctoral Division, Shairaj Shaik was awarded 1<sup>st</sup> place in the Masters Division, and Pritesh Shah was awarded 2<sup>nd</sup> Place in the Undergraduate Division.

Under my mentorship, Mountain Brook High School seniors Robert Smyly and Oliver White were awarded 3<sup>rd</sup> place overall in the Team Category at the Central Alabama Regional Science Fair (2009).

Under my mentorship, Mountain Brook High School junior Robert Smyly was awarded the "Intel Excellence in Computer Science Award" at the Central Alabama Regional Science Fair (2008).

Under my mentorship, Mountain Brook High School sophomore William Whitney won first place in computer science at the Alabama State Science and Engineering Fair (2007). He also won four other awards at the state level, including the IEEE Computer Science award. At the qualifying Central Alabama Regional Science Fair (2007), Will was awarded second place in computer science, engineering, and mathematics.

Under my mentorship, Mountain Brook High School junior George Tankersley was

awarded the “Intel Excellence in Computer Science Award” and the “Yale Science Award” at the Central Alabama Regional Science Fair (2007).

Under my mentorship, Mountain Brook High School senior Jerrod Sutton won three awards at the Central Alabama Regional Science Fair (2006) and was invited to compete at the Alabama State Science Fair, where he received an additional three awards.

*Undergraduate Research*

Assisted in the recruitment and advising of students for the NSF sponsored *Summer Internship Program in Hybrid and Embedded Research* (SIPHER) that is hosted by Vanderbilt University and UC Berkeley.

Assisted in the recruitment of UAB students for the NSF REU on Pervasive and Mobile Computing, hosted by University of Alabama at Tuscaloosa (Summer 2003, 2004, 2005, and 2006) and Auburn (2007)

*K-12 Activities*

Contest Director of the *UAB High School Programming Contest* (2005-present)

Contest Director of the *Alice Film Festival* (2007-present)

Recruiting Director and Teacher of the *UAB CIS Summer Camps* (2007-present)

Organized the first *Alabama K-12 Computer Science Teachers Workshop* at UAB (July 2006)

Organized and Hosted Dr. Tim Bell for the *Computer Science Unplugged* event at the McWane Center (2007)

Coordinator of Score Keeping - UAB Blazer BEST Robotics competition (2008)

Frequent speaker at K-12 meetings and school events (see *Invited Presentations/Outreach Meetings* under the *Publications* section)

Faculty Associate of the Auburn Computer Literacy Camp for Children (2007)

Assisted in initiating the Engineering Academy at Gardendale High School; bi-weekly lectures on robotics and Alice (Fall 2007; Spring 2009)

Initiated a series of talks on “Introduction to Game Programming with Alice” to the Gardendale High School Technology Club (meets twice a month, 2006-2007)

Hosted a half-day field trip to the UAB CIS Department:

- Everest Academy and Calvary Christian Schools (November 14, 2008)
- Morgan Academy, Selma, AL (October 3, 2008)
- Prattville High School (August 31, 2007)
- Vestavia Hills High School and the Altamont School (November 3, 2006)
- Neighborhood Housing Services of Birmingham (October 14, 2006)
- Fultondale High School Future Business Leaders of America (September 15, 2006)

Collaboration with the Heritage Center to provide summer internship opportunities to economically disadvantaged high-school students (<http://www.cis.uab.edu/heritage>).

Served as trainer for the *Black Data Processing Association* (BDPA) High School Computer Competition, 2006

Led the recruitment of high school students for the UAB DUAL program (2005). Sally

Tao and Jia Zhang became the first students sponsored by the CIS department. The DUAL program permits high school students to take an accelerated course at UAB for college credit.

Organized the CIS Department's representation at *Birmingham Parents Fair*, 2005-2007

Assisted in the CIS Department Summer Computer Camp by providing a lecture on software engineering and aspect-oriented programming, 2003.

*University  
Service*

Interviewer for UAB Science and Technology Honors Program, 2009

Department of Biology Textbook Review Committee, 2009

Member of the Responsible Conduct of Research (RCR) project, 2007

Natural Sciences and Mathematics Faculty Affairs Committee, 2007-present

*Department  
Service*

Coordinator of the CIS Department's K-12 Outreach efforts, 2005-present

Coordinator for the M.S. Software Engineering Specialization, 2005-present

CIS Department Faculty Affairs Committee, 2007-present

CIS Department Graduate Admissions Committee, 2007-present

Chair of the Department Outcomes Assessment Committee, 2007-present

Coordinator for the Department Seminar Series, 2002-2006

Coordinator for the CIS 201 Introduction to Java Course, 2007-present

Coordinator for the CIS 420/520 Software Engineering Course, 2004-2008

Department Nomination Committee for Undergraduate Fellowships, 2003-present

Coordinator of the Software Engineering section of the Ph.D. Qualifying exam

Coach of the Department ACM Programming Contest Team, 2004-2005

Organized Department trip (30 students) to the Honda Plant (October 2004)

Organized Department trip (20 students) to CTS (January 2005, February 2006)

## Honoraries & Memberships

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*Honoraries*

Phi Kappa Phi  
Phi Beta Kappa  
Golden Key National Honor Society

*Memberships*

Association for Computing Machinery	
Student Member	<i>1988-2002</i>
Member	<i>2003-present</i>
IEEE Computer Society	
Student Member	<i>1988-2002</i>

Member	2003-2005
Senior Member	2006-present
Mensa	1995-present
Sigma Xi (The Scientific Research Society)	2008-present

## Experience

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### Research and Professional Experience

<i>April 2002- July 2002</i>	<b>VANDERBILT UNIVERSITY</b>  Research Associate, DARPA PCES project	<b>Institute for Software Integrated Systems (ISIS)</b>  <i>Nashville, TN</i>
<i>February 1999- March 2002</i>	<b>VANDERBILT UNIVERSITY</b>  Research Assistant on DARPA PCES project, investigating application of Aspect-Oriented Programming with Model Integrated Computing; Investigated tool integration for Boeing.	<b>Institute for Software Integrated Systems (ISIS)</b>  <i>Nashville, TN</i>
<i>Summer 1997- January 1999</i>	<b>ASPECT COMMUNICATIONS</b>  Lead developer on the TCS Schema Manager; developed components and tools to help support the effort to internationalize the TCS flagship product; created the database exception handler; offered several presentations on UML and Delphi.	<b>TCS</b>  <i>Brentwood, TN</i>
<i>Summer 1996</i>	<b>IBM TJ WATSON RESEARCH CENTER</b>  Conducted research in reusable software components (e.g., OLE, OpenDoc, Java); delivered a technical presentation; offered a tutorial on HTML and CGI.	<i>Yorktown Heights, NY</i>
<i>Spring 1996</i>	<b>STATE OF TENNESSEE</b>  Aided in the identification and implementation of distributed business objects that were used throughout the enterprise of the State of Tennessee. Built the first prototype of an external web page for the State of Tennessee.	<b>Department of Finance &amp; Administration</b>  <i>Nashville, TN</i>
<i>Summer 1995</i>	<b>VANDERBILT UNIVERSITY</b>  Assisted in the development of Vanderbilt's budgeting system. I was responsible for constructing the installation software and documentation that resided on 5 servers, facilitating installation to over 200 sites; tested the main application for faults and memory leaks.	<b>Associate Provost's Office</b>  <i>Nashville, TN</i>

*Spring 1992-  
Spring 1993*      **WEST VIRGINIA UNIVERSITY**      **Department of  
Computer Science**

Served as a Research Assistant on a DARPA contract that investigated issues pertaining to software reuse.

*Morgantown, WV*

*Fall 1989-  
Spring 1990*      **WEST VIRGINIA UNIVERSITY**      **Department of  
Computer Science**

Served as an Undergraduate Research Assistant (as a sophomore) on a contract from TRW that investigated functional testing of Ada software.

*Morgantown, WV*

### **Teaching Experience**

*Fall 1993-  
Spring 1997*      **VANDERBILT UNIVERSITY**      **Department of  
Computer Science**

Teaching Assistant assigned to CS100. I had complete responsibility for the sections that I taught.

*Nashville, TN*

*Fall 1991-  
Spring 1993*      **WEST VIRGINIA UNIVERSITY**      **Department of  
Computer Science**

Served as a Teaching Assistant for various freshmen and sophomore level laboratories.

*Morgantown, WV*

*Faculty  
Training*      Participant in the *Seldin Teaching Portfolio Mentoring Workshop*, Birmingham, AL, May 2-5, 2006.

Participant in the *UAB Master Teaching Program* workshop, Birmingham, AL, April 27-28, 2006.

Participant in the Computing Research Association's workshop on *Academic Careers and Effective Teaching*, Washington, DC, February 23-24, 2004.

Participant in the New Software Engineering Faculty Symposium (NSEFS), *International Conference on Software Engineering (ICSE)*, Portland, OR, May 5 2003.

Participant in the Vanderbilt Center for Teaching's Future Faculty Preparation Program (F2P2).

### **Miscellaneous**

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*Volunteer*      In the past, I was a weekly religious volunteer at the Riverbend Maximum Security prison, the Brighton Gardens nursing home, and the Southerland nursing home (1998-2002).

*Hobbies*      Guitar playing, weightlifting, football, baseball/softball

*Other*      My Erdős number is 3 (several different 4 and 5 paths):  
Erdős, Paul -> Laskar, Renu -> Sprague, Alan -> Me