Tony Givargis Professor of Computer Science University of California, Irvine Irvine, CA 92697-3435 givargis@uci.edu (949) 824-9357

Objective

Research and teaching in the areas of computer science with emphasis on embedded systems.

Education

- Ph.D., Computer Science, UCR, 2001, Thesis: System-Level Exploration for Pareto-Optimal Configurations in Parameterized System-on-a-Chip, Received Best Thesis Award.
- B.S., Computer Science, UCR, 1997, Graduated Cum Laude.

Position

- Chair, Department of Computer Science, University of California, Irvine, 2021-present.
- Professor, Department of Computer Science, University of California, Irvine, 2011-present.
- Vice Chair, Department of Computer Science, University of California, Irvine, 2018-2021.
- Associate Dean for Student Affairs, School of Information & Computer Sciences, University of California, Irvine, 2011-2016.
- Associate Professor, Department of Computer Science, University of California, Irvine, 2007-2011.
- Assistant Professor, Department of Computer Science, University of California, Irvine, 2001-2007.

Consulting

- Provided expert consultation to the Deputy Director of Postsecondary Success at the Bill & Melinda Gates Foundation, 2024.
- Provided expert reports in the United States Patent and Trademark Office (Patent Trial and Appeal Board) Apple Inc. v. Neodron Limited reexamination proceedings, 2020.
- Provided system software consulting services to Levyx Inc., 2014-2019.
- Provided expert reports and testimony in the U.S. International Trade Commission (USITC) Investigation of Certain Mobile and Portable Electronic Devices Incorporating Haptics (Including Smartphones and Laptops) and Components Thereof (337-TA-1004), 2016-2017.
- Provided expert reports and testimony in the United States Patent and Trademark Office (Patent Trial and Appeal Board) Apple Inc. v. Immersion Corporation reexamination proceedings, 2016-2017.
- Provided expert reports and testimony in the U.S. International Trade Commission (USITC) Investigation of Certain Communications Or Computing Devices And Components Thereof (337-TA-924), 2014-2015.

- Provided system software consulting services to STEC Inc., 2011-2013.
- Provided expert reports and testimony in the Apple Inc. v. Samsung Electronics Co. Ltd. judicial proceedings, 2011-2012.

Member

- Institute of Electrical and Electronics Engineers (IEEE), Senior Member.
- Association for Computing Machinery (ACM).

Service

Editorial Board

- Editorial Board Member, Journal of Life & Environmental Sciences (PeerJ), Computer Science, 2023present.
- Guest Editor, International Journal of Parallel Programming (IJPP), 2023-present.
- Associate Editor, Computer Science & Engineering section of Electronics, 2019-2021.
- Associate Editor, ACM Transactions on Embedded Computing Systems (TECS), 2008-2014.
- Online Editor, Odysci, 2010-2011.
- Associate Editor, ACM SIGDA Bimonthly Newsletter, 2005-2007.
- Guest Editor, International Journal of Parallel Programming (IJPP), 2006, 2007.
- Associate Editor, Journal of Embedded Computing (JEC), 2004-2006.

Distinguished Service

- Tutorial & Special Session Member, International Conference on Computer Aided Design (ICCAD), 2019-2024.
- Industrial Sponsorship Co-Chair for the ACM International Conference on Computing Frontiers (CF), 2021.
- Executive Committee Member, ACM Special Interest Group on Design Automation (SIGDA), 2009-2011.
- Technical Program Committee Co-Chair, International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2010.
- Technical Program Committee Co-Chair, IFIP Workshop on Software Technologies for Future Embedded & Ubiquitous Systems (SEUS), 2008.
- Technical Program Committee Chair, Special Interest Group on Design Automation (SIGDA) Ph.D. Forum at Design Automation Conference, 2007.
- Technical Program Committee Co-Chair, Special Interest Group on Design Automation (SIGDA) Technical Committee on System Design, 2006.
- Technical Program Committee Co-Chair, Special Interest Group on Design Automation (SIGDA) Ph.D. Forum at Design Automation Conference, 2006.

• Special Sessions Chair, International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2005.

Technical Program Committee Member

- International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2003-present.
- Design Automation Conference (DAC), 2022.
- Design Automation Conference (DAC), 2020.
- International Conference on Computer Aided Design (ICCAD), 2018-2020.
- ACM Great Lakes Symposium on VLSI (GLSVLSI), 2018.
- Design Automation Conference (DAC), 2017.
- Non-Volatile Memory Systems and Applications Symposium (NVMSA), 2017.
- Design, Automation and Test in Europe Conference (DATE), 2016-2018.
- IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), 2013.
- IEEE Symposium on Embedded Systems for Real-Time Multimedia (ESTIMedia), 2012-2017.
- Design Automation Conference (DAC), 2012-2014.
- ACM Student Research Competition at DAC, 2010.
- International Conference on Embedded Software and Systems (ICESS), 2008.
- International Symposium on Low Power Electronics and Design (ISLPED), 2007-2011.
- International Workshop on Embedded Single and Multicore Systems on Chips (MCSoC), 2007.
- International Workshop on Embedded Software Optimization (ESO), 2006.
- International Workshop on SoC and MCSoC Design (SoC), 2006.
- International Workshop on Embedded Computing (EC), 2006.
- International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES), 2005, 2009-2011.
- Special Interest Group on Design Automation (SIGDA) Ph.D. Forum at Design Automation Conference (DAC), 2005-2008.
- International Conference on Embedded And Ubiquitous Computing (EUC), 2005.
- International Workshop on Logic and Synthesis (IWLS), 2004-2006.
- International Conference on Computer Aided Design (ICCAD), 2003-2005, 2010-2011.
- Asia and South Pacific Design Automation Conference (ASP-DAC), 2003.
- International Workshop on Embedded System Codesign (ESCODES), 2002.

Topic Chair

- Embedded Software: International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2014.
- Embedded Software: International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2013.
- Embedded Software: International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2006.
- Micro-Architecture and Memory Optimizations: International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2005.
- Micro-Architecture and Memory Optimizations: International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2004.

Session Chair

- Asia and South Pacific Design Automation Conference (ASP-DAC), 2021.
- International Conference on Computer Aided Design (ICCAD), 2017.
- International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2009.
- International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES), 2009.
- Design Automation Conference (DAC), 2009.
- Design Automation and Test in Europe (DATE), 2008.
- Design Automation Conference (DAC), 2007.
- International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2005.
- International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES), 2005.
- International Conference on Computer Aided Design (ICCAD), 2005.
- International Symposium on Low Power Electronics and Design (ISLPED), 2005.
- International Conference on Computer Aided Design (ICCAD), 2004.
- International Conference on Computer Aided Design (ICCAD), 2003.
- International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2002.
- International Workshop on Embedded System Codesign (ESCODES), 2002.
- International Conference on Computer Aided Design (ICCAD), 2001.

Conference Organizer

- Reviewer, International Conference on Computer Aided Design (ICCAD), Special Sessions and Tutorial, 2019, 2020.
- Finance Chair, Embedded Systems Week (ESWEEK), 2008.
- Finance Chair, International Symposium on Low Power Electronics and Design (ISLPED), 2007.
- Student Travel Grants Chair, International Conference on Supercomputing (ICS), 2006.
- Web Chair, International Symposium on Low Power Electronics and Design (ISLPED), 2006.
- Audio Visual Chair, International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2006.
- Finance Chair, Special Interest Group on Design Automation (SIGDA) Ph.D. Forum at Design Automation Conference (DAC), 2005.
- Publicity Chair, International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2004.
- Poster Committee Chair, Southern California Embedded Systems Symposium (SCESS), 2003.
- Local Chair and Treasurer, International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2003.
- Local Chair, International Workshop on Languages, Compilers, and Tools for Embedded Systems (LCTES), 2003.
- Finance and Registration Co-Chair, International Symposium on High Performance Computer Architecture (HPCA), 2003.

Reviewer & Panelist

- External reviewer for Chapman University's Computer Science, Data Analytics, and Software Engineering programs (multi-day site visit, delivery of assessment summaries for each program, exit meeting with Dean & Provost, delivery of a comprehensive final report), October 2019.
- National Science Foundation (NSF).
- Kentucky Science & Engineering Foundation (KSEF).
- University of California Microelectronics Innovation and Computer Research Opportunities (UC-MICRO).
- Council of Physical Sciences of the Netherlands Organization for Scientific Research (NWO).
- IEEE Computer.
- IEEE Transactions on Computers (TC).
- IEEE Transactions on Computer Aided Design (TCAD).
- IEEE Transactions on Very Large Scale Integration Systems (TVLSI).
- IEEE Transactions on Design & Test of Computers (TD&T).
- IEEE Transactions on Circuits and Systems II (TCAS-II).
- ACM Transactions on Embedded Computing Systems (TECS).

- ACM Transactions on Design Automation of Electronic Systems (TODAES).
- IEE Proceedings Computers and Digital Techniques (IEE-C&DT).
- Springer Design Automation for Embedded Systems (SDAES).
- Cluwer Design Automation for Embedded Systems (CDAES).
- Elsevier Journal of Microprocessors and Microsystems (MICPRO).
- Elsevier Journal of System Architecture (JSA).
- Asia and South Pacific Design Automation Conference (ASP-DAC).
- Design Automation Conference (DAC).
- International Conference on Computer Aided Design (ICCAD).
- International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS).
- International Symposium on Micro-architecture (MICRO).
- International Workshop on Compilers, Architecture, and Synthesis for Embedded Systems (CASES).
- International Workshop on Logic and Synthesis (IWLS).

University

• Member, University Committee on Computing and Communications (UCCC), 2007-2010.

Campus

- Member, Provost's Leadership Academy, 2023-2024.
- Faculty Advisor, Society of Women Engineers (SWE) 2015-2017.
- Member, Council on Enrollment and Student Success, 2015-2016.
- Member, Graduate Professional Development and Career Outcomes Task Force, 2013-2014.
- Member, Council on Research, Computing and Library Resources (CORCLR), 2007-2010.
- Chair, Faculty Board for Undecided/Undeclared Students: A Board of the Council on Educational Policy, 2003-2007.

School

- Chair, Department of Computer Science, 2021-present.
- Member, ICS Distinctions Committee, 2021-present.
- Ex Officio Member, CS Steering Committee, 2020-2021.
- Chair, Ad Hoc Merit Review (1 case), 2020-2021.
- Member, Ad Hoc Merit Review (1 case), 2020-2021.
- Chair, Professor of Teaching Hiring Committee, 2020-2021.
- Chair, Ad Hoc Merit Review (4 cases), 2019-2020.

- Member, Ad Hoc Merit Review (3 cases), 2019-2020.
- Ex Officio Member, CS&E Steering Committee, 2018-2021.
- Vice Chair, CS Undergraduate Affairs, 2018-2021.
- Chair, Part-Time Hiring Committee, 2018-2019.
- Chair, Full-Time Lecturer Hiring Committee, 2018-2019.
- Member, Professor of Teaching Hiring Committee, 2018-2019.
- Member, CS Hiring Vision Committee, 2017-2018.
- Member, ICS Executive Committee, 2017-2018.
- Associate Dean, ICS Student Affairs, 2011-2016.
- Ex Officio Member, Graduate Policy Committee, Undergraduate Policy Committee, CSE Steering Committee, 2011-2016.
- Chair, ICS Enrollment Growth Task Force, 2014.
- Chair, ICS Strategic Planning: Graduate Education Group, 2011-2012.
- Member, Task Force on ICS First Year Curriculum, 2010-2011.
- Chair, Task Force on the CS Major, 2010-2011.
- Member, Computer Science Chair Recommendation Committee, 2009-2010.
- Chair, Computing & Network Policy, 2009-2010.
- Member, Computing & Network Policy, 2008-2009.
- Member, CS&E Steering Committee, 2003-2006.
- Member, DARPA Grand Challenge Team eXtreme Anteater Racers (XAR) Group, 2004-2005.
- Member, Entrepreneurship Committee, 2004-2005.
- Member, Executive Committee, 2003-2004.
- Member, Transition Committee, 2003-2004.
- Member, Faculty Recruit Committee (Ubiquitous Computing), 2003-2004.
- Member, Faculty Recruit Committee (Embedded Systems), 2002-2003.
- Member, CS Degree Program Committee, 2002-2003.
- Member, Graduate Recruit & Admissions Committee, 2002-2003.
- Member, CS&E Degree Program Committee, 2001-2002.

Awards

- Best Paper Candidate, Design Automation and Test in Europe (DATE), 2021.
- UCI PHAI Academic Initiative Research Seed Grant, "Early Detection of New Respiratory Diseases," \$30K, 2021.
- Best Paper Candidate, Asian and South Pacific Design Automation Conference (ASP-DAC), 2021.
- ICS Research Award, "Computational Storage for Exceptionally Large Artificial Neural Network Acceleration," \$75K, 2020.
- UCI Innovator Awards, Entrepreneurial Leader Nominee, 2019.
- UCI Innovator Awards, Entrepreneurial Leader Nominee, 2018.
- NSF Grant (#1563652), National Science Foundation, \$1.0M, 2016.
- A. Richard Newton Young Student Advisor Award, The Design Automation Conference, San Francisco, 2015.
- NSF Grant (#1136146), National Science Foundation, \$1.5M, 2011.
- ASEE ECE Division Hewlett-Packard Frederick Emmons Terman Award, 2011.
- NSF Grant (#1016789), National Science Foundation, \$200K, 2010.
- ICS Dean's Award for Excellence in Undergraduate Teaching, University of California, Irvine, 2010.
- NSF Grant (#0837124), National Science Foundation, \$70K, 2009.
- Best Paper, International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES), 2008.
- Research & Travel Award, Council on Research, Computing, and Library Resources (CORCLR), University of California, Irvine, 2007.
- NSF Grant (#0749508), National Science Foundation, \$200K, 2007.
- Faculty Desktop Computing Initiative Award, University of California, Irvine, 2007.
- SIGDA Technical Leadership Award, American Computing Machinery (ACM), 2007.
- Best Paper, American Control Conference (ACC), 2006.
- Best Paper, ACM Transactions on Design Automation of Electronic Systems (TODAES), 2006.
- Research & Travel Award, Council on Research, Computing, and Library Resources (CORCLR), University of California, Irvine, 2005.
- Collaborative Research Initiation Award (CRIA), School of Information and Computer Sciences, University of California, Irvine, 2005.
- Chancellor's Award for Excellence in Fostering Undergraduate Research, University of California, Irvine, 2005.
- Research & Travel Grant, School of Information and Computer Sciences, University of California, Irvine, 2004.
- Ted & Janice Smith Faculty Seed Funding Award, 2004.

- Discovery Grant, University of California, 2003.
- Research Grant, Microsoft Corporation & University of California MICRO Matching Funds, 2003.
- Excellence in Teaching Award, Instructional Resource Center/Division of Undergraduate Education, University of California, Irvine, 2003.
- Research & Travel Grant, School of Information and Computer Science, University of California, Irvine, 2003.
- Equipment Donation, Xilinx University Program, 2002.
- NSF ITR Grant, National Science Foundation, 2002.
- Research & Travel Grant, School of Information and Computer Sciences, University of California, Irvine, 2002.
- Equipment Donation, Xilinx University Program, 2001.
- Outstanding Ph.D. Thesis, Department of Computer Science & Engineering, University of California, Riverside, 2001.
- Best Paper, Design Automation and Test in Europe (DATE), 2000.
- GAANN Fellowship, Department of Computer Science & Engineering, University of California, Riverside, 1998.
- Graduate Scholarship, Design Automation Conference, 1998.
- Scholarship, International Council on Systems Engineering Inland Empire, 1997.
- MICRO Fellowship, Department of Computer Science & Engineering, University of California, Riverside, 1997.
- Outstanding Student Award, College of Engineering, University of California, Riverside, 1997.
- Outstanding Academic Program Excellence, Honors Convocations, University of California, Riverside, 1997.

Presentations

Invited Talks

- Efficient Cardinality Estimation of Multi-Join Queries using Count Sketches. Core Data Engineering, META Inc., Menlo Park, 8/29/2024.
- Gravity: An Artificial Neural Network Compiler for Embedded Applications. University of California, Riverside, 12/7/2020.
- ESL Design: Why the Time is Right and What are the Key Enabling Technologies. IEEE International Conference on Computer Aided Design (ICCAD) 2005.
- New Developments in Embedded System Design: Software for Embedded System. IEEE International Conference on Computer Design (ICCD) 2005.

Patents

Issued

- P.13 T. Givargis. Storage Device Embedded Strand Architecture. United States Patent, 10,558,567, February 11, 2020.
- P.12 T. Givargis. Tree Structure Serialization and Deserialization Systems and Methods. United States Patent, 10,216,627, February 26, 2019.
- P.11 T. Givargis, R. Sadri. Methods for Optimizing Data Movement in Solid State Devices. United States Patent, 8,612,719, December 2013.
- P.10 T. Givargis. Systems and Methods for Managing Key-Value Stores. United States Patent, 8,612,402, December 2013.
- P.9 A. Nacul, T. Givargis. Phantom Serializing Compiler and Method of Operation of Same. United States Patent, 7,886,283, February 2011.
- P8. J. Addink, S. Addink, T. Givargis. Methods and Apparatus for Using Water Use Signatures and Water Pressure in Improving Water Use Efficiency. United States Patent 7,330,796, February 2008.
- P7. J. Addink, S. Addink, T. Givargis. Methods and Apparatus for Using Water use Signatures in Improving Water use Efficiency. United States Patent 6,963,808, November 2005.
- P6. J. Addink, T. Givargis. Interactive Irrigation System. United States Patent 6,950,728, September 2005.
- P5. J. Addink, K. Buhler, T. Givargis. Modifying Irrigation Schedules of Existing Irrigation Controllers. United States Patent 6,892,114, May 2005.
- P4. J. Henkel, T. Givargis, F. Vahid. Method for Core-Based System-Level Power Modeling using Object-Oriented Techniques. United States Patent 6,865,526, March 2005.
- P3. K. Buhler, T. Givargis. Two Tire Irrigation Valve Controller. United States Patent 6,812,826, November 2004.
- P2. J. Addink, T. Givargis. Detecting Weather Sensor Malfunctions. United States Patent 6,714,134, March 2004.
- P1. J. Addink, K. Buhler, T. Givargis. Irrigation Accumulation Controller. United States Patent 6,298,285, October 2001.

Publications

Book

- B4. S. Peter, T. Givargis. Generation and Verification of Timing Attack Resilient Schedules During the High-Level Synthesis of Integrated Circuits. Book Chapter in Behavioral Synthesis for Hardware Security, Springer, ISBN: 978-3-030-78840-7, 2022.
- B3. F. Vahid, T. Givargis. Programming Embedded Systems An Introduction to Time-Oriented Programming. UniWorld Publishing, ISBN: 978-0-9829626-4-0, 2012.
- B2. A. Nacul, M. Lajolo, T. Givargis. Interface-Centric Abstraction level for Rapid Hardware/Software Integration, Book Chapter in Applications of Specification and Design Languages for SOCs, Springer, ISBN: 1-4020-4997-8, 2006.

B1. F. Vahid, T. Givargis. Embedded System Design: A Unified Hardware/Software Introduction. John Wiley and Sons, ISBN: 0471386782, 2001.

Journal

- J37. M. Heddes, I. Nunes, T. Givargis, A. Nicolau, A. Veidenbaum. Hyperdimensional Computing: A Framework for Stochastic Computation and Symbolic AI. Journal of Big Data (JBD), vol 11, pp. 1-32, October 2024.
- J36. M. Heddes, I. Nunes, P. Vergés, D. Kleyko, D. Abraham, T. Givargis, A. Nicolau, A. Veidenbaum. Torchhd: An Open Source Python Library to Support Research on Hyperdimensional Computing and Vector Symbolic Architectures. Journal of Machine Learning Research (JMLR), vol 24, pp. 1-10, June 2023.
- J35. P. Poduval, H. Alimohamadi, A. Zakeri, F. Imani, M. Najafi, T. Givargis, M. Imani. GrapHD: Graph-Based Hyperdimensional Memorization for Brain-Like Cognitive Learning. Frontiers in Neuroscience, vol 16, pp. 1-20, February 2022.
- J34. N. Watkinson, F. Zaitsev, A. Shivam, M. Demirev, M. Heddes, T. Givargis, A. Nicolau, A. Veidenbaum. EdgeAvatar: An Edge Computing System for Building Virtual Beings. Electronics, vol 10, no. 3(229), pp. 1-19, January 2021.
- J33. M. Amir, T. Givargis. Pareto Optimal Design Space Exploration of Cyber-Physical Systems. Internet of Things (IoT), vol 12, no. 100308, pp. 1-13, December 2020.
- J32. F. Vahid, T. Givargis, R. Lysecky. A Pattern Recognition Framework for Embedded Systems. The American Society for Engineering Education (ASEE) Computers in Education (CoED) Journal, vol 11, no. 1, pp. 1-13, March 2020.
- J31. M. Amir, T. Givargis, F. Vahid. Switching Predictive Control Using Reconfigurable State-Based Model. ACM Transactions on Design Automation of Electronic Systems (TODAES), vol. 24, no. 1, pp. 1-21, November 2018.
- J30. M. Amir, T. Givargis. Priority Neuron: A Resource-Aware Neural Network for Cyber-Physical Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), pp. 1-11, DOI: 10.1109/TCAD.2018.2857319, September 2018.
- J29. H. Buini, S. Peter, T. Givargis. Adaptive Embedded Control of Cyber-Physical Systems using Reinforcement Learning. IET Cyber-Physical Systems: Theory & Applications (IET), vol. 2, no. 3, pp. 127-135, June 2017.
- J28. S. Peter, B. Reddy, F. Momtaz, T. Givargis. Design of Secure ECG-Based Biometric Authentication in Body Area Sensor Networks. Sensors, vol. 16, no. 4, pp. 570-591, April 2016.
- J27. T. Springer, S. Peter, T. Givargis. Fuzzy Logic Based Adaptive Hierarchical Scheduling for Periodic Real-Time Tasks. ACM Special Interest Group on Embedded Systems (SIGBED) Review, vol. 13, no. 1, pp. 8-14, January 2016.
- J26. S. Peter, T. Givargis. Component-Based Synthesis of Embedded Systems using Satisfiability Modulo Theories, ACM Transactions on Design Automation of Electronic Systems (TODAES), vol. 20, no. 4, pp. 49:1-49:27, September 2015.
- J25. T. Springer, S. Peter, T. Givargis. Adaptive Resource Synchronization In Hierarchical Real-Time Systems. ACM Special Interest Group on Embedded Systems (SIGBED) Review, vol. 11, no. 4, pp. 37-42, December 2014.

- J24. V. Gunes, S. Peter, T. Givargis, F. Vahid. A Survey on Concepts, Applications, and Challenges in Cyber-Physical Systems. KSII Transactions on Internet and Information Systems (TIIS), vol. 8, no. 12, pp. 4242-4268, December 2014.
- J23. B. Miller, F. Vahid, T. Givargis, P. Brisk. Graph-Based Approaches to Placement of Processing Element Networks on FPGAs for Physical Model Simulation. ACM Transactions on Reconfigurable Technology and Systems (TRETS), vol. 7, no. 4, article 10, December 2014.
- J22. C. Huang, F. Vahid, T. Givargis. Automatic synthesis of physical system differential equation models to a custom network of general processing elements on FPGAs. ACM Transactions on Embedded Computing Systems (TECS), vol 13, no. 2, article 23, September 2013.
- J21. C. Huang, B. Miller, F. Vahid, T. Givargis. Synthesis of Networks of Custom Processing Elements for Real-Time Physical System Emulation. ACM Transactions on Design Automation of Electronic Systems (TODAES), vol. 18, no. 2, pp. 22-42, March 2013.
- J20. C. Huang, F. Vahid, T. Givargis. A Custom FPGA Processor for Physical Model Ordinary Differential Equation Solving. IEEE Embedded Systems Letters, vol. 3, no. 4, pp. 113-116, September 2011.
- J19. S. Choudhuri, T. Givargis. Deterministic Service Guarantees for NAND Flash using Partial Block Cleaning. Academy Publisher Journal of Software (JSW), vol. 4, no. 7, pp. 728-737, September 2009.
- J18. M.A. Ghodrat, T. Givargis, A. Nicolau. Optimizing Control Flow in Loops using Interval and Dependence Analysis. Springer Journal on Design Automation of Embedded Systems (DAES), vol. 13, no. 3, pp. 193-221, September 2009.
- J17. S. Sirowy, D. Sheldon, T. Givargis, F. Vahid. Virtual Microcontrollers. ACM SIGBED Review, vol. 6, no. 1, January 2009.
- J16. A. Nacul, T. Givargis. Synthesis of Time-Constrained Multitasking Embedded Software. ACM Transactions on Design Automation of Electronic Systems (TODAES), vol. 11, no. 4, pp. 822-847, October 2006.
- J15. M.A. Ghodrat, T. Givargis, A. Nicolau. Expression Equivalence Checking using Interval Analysis. IEEE Transactions on Very Large Scale Integration Systems (TVLSI), vol. 14, no. 8, pp. 830-842, August 2006.
- J14. C.V. Lopes, A. Haghighat, A. Mandal, T. Givargis, P. Baldi. Localization of Off-the-Shelf Mobile Devices Using Audible Sound: Architectures, Protocols and Performance Assessment. ACM Mobile Computing and Communications Review (MC2R), vol. 10, no. 2, pp. 38-50, April 2006.
- J13. T. Givargis. Zero Cost Indexing for Improved Processor Cache Performance. ACM Transactions on Design Automation of Electronic Systems (TODAES), vol. 11, no. 1, pp. 3-25, January 2006. 2006 TODAES Best Paper Award.
- J12. T. Givargis, David Eppstein. Memory Reference Caching for Activity Reduction on Address Buses. Elsevier Journal of Microprocessors and Microsystems (MICPRO), vol. 29, no. 4, pp. 145-153, May 2005.
- J11. A. Ghosh, T. Givargis. Cache Optimization for Embedded Processor Cores: An Analytical Approach. ACM Transactions on Design Automation of Electronic Systems (TODAES), vol. 9, no. 4, pp. 419-440, October 2004.
- J10. A. Nacul, T. Givargis. Adaptive Cache Management for Low Power Embedded Systems. Korea Multimedia Society, Key Technology of Next Generation IT, ISSN 1229-778X, pp. 30-39, December 2003.

- J9. T. Givargis, F. Vahid, J. Henkel. Instruction-Based System-Level Power Evaluation of System-on-a-Chip Peripheral Cores. IEEE Transactions on Very Large Scale Integration Systems (TVLSI), vol. 10, no. 6, pp. 856-863, December 2002.
- J8. T. Givargis, F. Vahid, J. Henkel. System-Level Exploration for Pareto-Optimal Configurations in Parameterized System-on-a-Chip. IEEE Transactions on Very Large Scale Integration Systems (TVLSI), vol. 10, no. 4, pp. 416-422, December 2002.
- J7. T. Givargis, F. Vahid. Platune: A Tuning Framework for System-on-a-Chip Platforms. IEEE Transactions on Computer Aided Design (TCAD), vol. 21, no. 11, pp. 1317-1327, November 2002.
- J6. F. Vahid, T. Givargis, S. Cotterell. Power Estimator Development for Embedded System Memory Tuning. Journal of Circuits, Systems, and Computers (JCSC), vol. 11, no. 5, pp. 459-476, October 2002.
- J5. T. Givargis, F. Vahid. Tuning of Cache Ways and Voltage for Low-Energy Embedded System Platforms. Springer Journal on Design Automation of Embedded Systems, vol. 7, issue 1-2, pp. 35-51, September 2002.
- J4. T. Givargis, F. Vahid, J. Henkel. Evaluating Power Consumption of Parameterized Cache and Bus Architectures in System-on-a-Chip Designs. IEEE Transactions on Very Large Scale Integration Systems (TVLSI), vol. 9, no. 4, pp. 500-508, August 2001.
- J3. F. Vahid, T. Givargis. Platform Tuning for Embedded Systems Design. IEEE Computer, vol. 34, no. 3, pp. 112-114, March 2001.
- J2. J. Farrell, T. Givargis, M. Barth. Real-Time Differential Carrier Phase GPS-Aided INS. IEEE Transactions on Control Systems Technology (TCST), vol. 8, no. 4, pp. 709-721, July 2000.
- J1. J. Farrell, T. Givargis. Differential GPS Reference Station Algorithm Design and Analysis. IEEE Transactions on Control Systems Technology (TCST), vol. 8, no. 3, pp. 519-531, May 2000.

Conference

- C84. P. Verges, M. Segura, R. Arangott, A. Garcia, L. Reynoso, S. Gago-Masague, T. Givargis, A. Nicolau. Smartwatch-Based Prediction of Transdermal Alcohol Levels Using Hyperdimensional Computing. IEEE World Forum on Internet of Things (WF-IoT), to appear.
- C83. M. Segura, P. Verges, J. Chen, R. Arangott, A. Garcia, L. Reynoso, A. Nicolau, T. Givargis, S. Gago-Masague. Enhanced Detection of Transdermal Alcohol Levels Using Hyperdimensional Computing on Embedded Devices, 2024 International Joint Conference on Neural Networks (IJCNN), pp. 1-8, Yokohama, 2024.
- C82. P. Verges, I. Nunes, M. Heddes, T. Givargis and A. Nicolau. Molecular Classification Using Hyperdimensional Graph Classification. 2024 International Joint Conference on Neural Networks (IJCNN), pp. 1-8, Yokohama, 2024.
- C81. M. Heddes, I. Nunes, T. Givargis, A. Nicolau. Convolution and Cross-Correlation of Count Sketches Enables Fast Cardinality Estimation of Multi-Join Queries. ACM Special Interest Group on Management of Data (SIGMOD), Article 129, pp. 1-26, Santiago, 2024.
- C80. P. Verges, T. Givargis, A. Nicolau. RefineHD: Accurate and Efficient Single-Pass Adaptive Learning Using Hyperdimensional Computing. IEEE International Conference on Rebooting Computing (ICRC), pp. 1-8, San Diego, 2023.

- C79. P. Verges, I. Nunes, M. Heddes, T. Givargis, A. Nicolau. Accelerating The Permute And N-gram Operations For Hyperdimensional Learning in Embedded Systems. IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA), pp. 253-260, Niigata, 2023.
- C78. I. Nunes, M. Heddes, P. Verges, D. Abraham, A. Veidenbaum, A. Nicolau, T. Givargis. DotHash: Estimating Set Similarity Metrics for Link Prediction and Document Deduplication. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), pp. 1758-1769, New York, 2023.
- C77. M. Heddes, I. Nunes, T. Givargis, A. Nicolau. An Extension to Basis-Hypervectors for Learning from Circular Data in Hyperdimensional Computing. Design Automation Conference (DAC), pp. 1-6, San Francisco, 2023.
- C76. N. Watkinson, D. Devineni, V. Joe, T. Givargis, A. Nicolau, A. Veidenbaum. Using Hyperdimensional Computing to Extract Features for the Detection of Type 2 Diabetes. IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW), pp. 149-156, St. Petersburg, 2023.
- C75. M. Heddes, I. Nunes, T. Givargis, A. Nicolau, A. Veidenbaum. Hyperdimensional hashing: a robust and efficient dynamic hash table. Design Automation Conference (DAC), pp. 907-912, New York, 2022.
- C74. F. Vahid, B. Miller, T. Givargis. ANON: A Task Scheduler in Source Code for Teaching and Implementing Concurrent or Real-Time Software. ASEE Annual Conference & Exposition (ASEE), pp. 1-14, Minneapolis, 2022.
- C73. I. Nunes, M. Heddes, T. Givargis, A. Nicolau, A. Veidenbaum. GraphHD: Efficient Graph Classification Using Hyperdimensional Computing. Design Automation and Test in Europe (DATE), pp. 1485-1490, Virtual, 2022. DATE Best Paper Candidate.
- C72. N. Watkinson, T. Givargis, V. Joe, A. Nicolau, A. Veidenbaum. Detecting COVID-19 Related Pneumonia on CT Scans using Hyperdimensional Computing. International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), pp. 3970-3973, Virtual, November 2021.
- C71. N. Watkinson, T. Givargis, V. Joe, A. Nicolau, A. Veidenbaum. Class-Modeling of Septic Shock With Hyperdimensional Computing. International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), pp. 1653-1659, Virtual, November 2021.
- C70. T. Givargis. Gravity: An Artificial Neural Network Compiler for Embedded Applications. IEEE/ACM Asian and South Pacific Design Automation Conference (ASP-DAC), pp. 715-721, Tokyo, January 2021. ASP-DAC Best Paper Candidate.
- C69. H. Buini, G. Sharon, S. Boyles, T. Givargis, P. Stone. Enhanced Delta-tolling: Traffic Optimization via Policy Gradient Reinforcement Learning. IEEE International Conference on Intelligent Transportation Systems (ITSC), pp. 47-52, Maui, November 2018.
- C68. H. Buini, G. Sharon, S. Boyles, T. Givargis and P. Stone. Link-based Parameterized Micro-tolling Scheme for Optimal Traffic Management. International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pp. 2013-2015, Stockholm, July 2018.
- C67. M. Amir, T. Givargis. Hybrid State Machine Model for Fast Model Predictive Control: Application to Path Tracking. International Conference on Computer-Aided Design (ICCAD), pp. 185-192, Irvine, November 2017.
- C66. M. Amir, T. Givargis. HES Machine: Harmonic Equivalent State Machine Modeling for Cyber-Physical Systems. IEEE International High-Level Design Validation and Test Workshop (HLDVT), pp. 31-38, Santa Cruz, October 2017.

- C65. H. Buini, M. Fathollahi, T. Givargis. OPEB: Open Physical Environment Benchmark for Artificial Intelligence. IEEE International Forum on Research and Technologies for Society and Industry (RTSI), pp. 1-6, Modena, September 2017.
- C64. H. Buini, T. Givargis. Fine-Grained Acceleration Control for Autonomous Intersection Management Using Deep Reinforcement Learning. IEEE Smart World Congress (SWC), pp. 1-8, San Francisco, August 2017.
- C63. S. Peter, T. Givargis. Towards a Timing Attack Aware High-level Synthesis of Integrated Circuits. IEEE International Conference on Computer Design (ICCD), pp. 452-455, Phoenix, October 2016.
- C62. F. Vahid, A. Edgcomb, B. Miller, T. Givargis. Learning Materials for Introductory Embedded Systems Programming using a Model-Based Discipline. American Society for Engineering Education (ASEE), 10.18260/p.27324, New Orleans, June 2016.
- C61. S. Peter, F. Momtaz, T. Givargis. From the Browser to the Remote Physical Lab: Programming Cyber-Physical Systems. IEEE Frontiers in Education (FIE), pp. 1-7, El Paso, October 2015.
- C60. V. Gunes, S. Peter, T. Givargis. Improving Energy Efficiency and Thermal Comfort of Smart Buildings with HVAC Systems in the Presence of Sensor Faults. IEEE International Conference on Embedded Software and Systems (ICESS), pp. 945-950, New York, August 2015.
- C59. V. Gunes, T. Givargis. XGRID: A Scalable Many-Core Embedded Processor. IEEE International Conference on Embedded Software and Systems (ICESS), pp. 1143-1146, New York, August 2015.
- C58. H. Buini, S. Peter, T. Givargis. Including Variability of Physical Models into the Design Automation of Cyber-Physical Systems. Design Automation Conference (DAC), pp. 153:1-153:6, San Francisco, June 2015.
- C57. T. Springer, S. Peter, T. Givargis. Resource Synchronization in Hierarchically Scheduled Real-Time Systems using Preemptive Critical Sections. IEEE International Symposium on Object/Component-Oriented Real-Time Distributed Computing (ISORC), pp. 293-300, Reno, June 2014.
- C56. V. Gunes, S. Peter, T. Givargis. Modeling and Mitigation of Faults in Cyber-Physical Systems with Binary Sensors. IEEE International Conference on Computational Science and Engineering (CSE), pp. 515-522, Sydney, December 2013.
- C55. S. Peter, T. Givargis. Utilizing Intervals in Component-Based Design of Cyber Physical Systems. IEEE International Conference on Computational Science and Engineering (CSE), pp. 635-642, Sydney, December 2013.
- C54. B. Miller, F. Vahid, T. Givargis. Exploration with Upgradeable Models Using Statistical Methods for Physical Model Emulation. Design Automatic Conference (DAC), pp. 1-6, Austin, June 2013.
- C53. S. Peter, F. Vahid, T. Givargis. A Ball Goes to School Our Experiences from a CPS Design Experiment. Workshop on Cyber-Physical Systems Education (CPS-Ed) at Cyber Physical Systems Week (CPSWeek), pp. 1-4, Philadelphia, April 2013.
- C52. B. Miller, F. Vahid, T. Givargis. Embedding-Based Placement of Processing Element Networks on FPGAs for Physical Model Simulation. International Symposium on Field-Programmable Gate Arrays (FPGA), pp. 181-190, Monterey, February 2013.
- C51. T. Chou, C. Huang, B. Miller, F. Vahid, T. Givargis. An Efficient Compression Scheme for Checkpointing of FPGA-Based Digital Mockups. IEEE/ACM Asian and South Pacific Design Automation Conference (ASP-DAC), pp. 632-637, Yokohama, January 2013.

- C50. B. Miller, F. Vahid, T. Givargis. RIOS: A Lightweight Task Scheduler for Embedded Systems. Workshop on Embedded Systems Education (WESE), Tampere, October 2012.
- C49. C. Huang, B. Miller, F. Vahid, T. Givargis. Synthesis of Custom Networks of Heterogeneous Processing Elements for Complex Physical System Emulation. International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), pp. 215-224, Tampere, October 2012.
- C48. B. Miller, F. Vahid, T. Givargis. MEDS: Mockup Electronic Data Sheets for Automated Testing of Cyber-Physical Systems Using Digital Mockups. Design Automation and Test in Europe (DATE), pp. 1417-1420, Grenoble, March 2012.
- C47. B. Miller, F. Vahid, T. Givargis. Digital Mockups for the Testing of a Medical Ventilator. ACM SIGHIT International Health ACM SIGHIT International Health Informatics Symposium (IHI), pp. 859-862, Miami, January 2012.
- C46. B. Miller, F. Vahid, T. Givargis. Application-Specific Codesign Platform Generation for Digital Mockups in Cyber-Physical Systems. Electronic System Level Synthesis Conference (ESLsyn), pp. 1-6, San Diego, June 2011.
- C45. M.A. Ghodrat, T. Givargis. Efficient Dynamic Voltage/Frequency Scaling through Algorithmic Loop Transformation. International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), pp. 203-209, Grenoble, October 2009.
- C44. S. Sirowy, F. Vahid, T. Givargis. Digitally-Bypassed Transducers: Interfacing Digital Mockups to Real-Time Medical Equipment. International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), pp. 919-922, Minneapolis, September 2009.
- C43. A. Ghosh, T. Givargis. Source Routing made Practical in Embedded Networks. International Conference on Computer Communications and Networks (ICCCN), pp. 1-6, San Francisco, August 2009.
- C42. A. Ghosh, T. Givargis. QoS Routing in Wired Sensor Networks with Partial Updates. World Academy of Science, Engineering and Technology (WASED), pp. 389-393, Oslo, July 2009.
- C41. S.K. Mylavarapu, S. Choudhuri, A. Shrivastava, J. Lee, T. Givargis. FSAF: File System Aware Flash Translation Layer for NAND Flash Memories. Design Automation and Test in Europe (DATE), pp. 339-344, Dresden, April 2009.
- C40. S. Choudhuri, T. Givargis. FlashBox: A System for Logging Non-Deterministic Events in Deployed Embedded Systems. International ACM Symposium on Applied Computing (SAC), pp. 1676-1682, Honolulu, March 2009.
- C39. M.A. Ghodrat, T. Givargis, A. Nicolau. Control Flow Optimization in Loops using Interval Analysis. International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES), pp. 157-166, Atlanta, October 2008. 2008 CASES Best Paper Award.
- C38. F. Vahid, T. Givargis. Timing is Everything Embedded Systems Demand Early Teaching of Structured Time-Oriented Programming. Workshop on Embedded Systems Education (WESE), Atlanta, October 2008.
- C37. S. Sirowy, D. Sheldon, T. Givargis, F. Vahid. Virtual Microcontrollers. Workshop on Embedded Systems Education (WESE), Atlanta, October 2008.
- C36. F. Vahid, T. Givargis. Highly-Cited Ideas in System Codesign and Synthesis. International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), pp. 191-196, Atlanta, October 2008.

- C35. S. Choudhuri, T. Givargis. Deterministic Service Guarantees for NAND Flash using Partial Block Cleaning. International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), pp. 19-24, Atlanta, October 2008.
- C34. S. Choudhuri, T. Givargis. Real-Time Access Guarantees for NAND Flash using Partial Block Cleaning. Workshop on Software Technologies for Future Embedded & Ubiquitous Systems (SEUS), pp. 138-149, Italy, September 2008.
- C33. A. Ghosh, T. Givargis. A Software Architecture for Accessing Data in Sensor Networks. International Conference on Networked Sensing Systems (INSS), pp. 67-70, Japan, June 2008.
- C32. S. Choudhuri, T. Givargis. Performance Improvement of Block Based NAND Flash Translation Layer. International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), pp. 257-262, Salzburg, September 2007.
- C31. M.A. Ghodrat, T. Givargis., A. Nicolau. Short-Circuit Compiler Transformation: Optimizing Conditional Blocks. Asia and South Pacific Design Automation Conference (ASP-DAC), pp. 504-510, Tokyo, January 2007.
- C30. S. Choudhuri, T. Givargis. System Architecture for Software Peripherals. Asia and South Pacific Design Automation Conference (ASP-DAC), pp. 56-61, Tokyo, January 2007.
- C29. A. Nacul, T. Givargis. Phantom: A Serializing Compiler for Multitasking Embedded Software. American Control Conference (ACC), pp. 1918-1923, Minneapolis, June 2006. 2006 ACC Best Paper Award.
- C28. M.A. Ghodrat, T. Givargis, A. Nicolau. Equivalence Checking of Arithmetic Expressions using Fast Evaluation. International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES), pp. 147-156, San Francisco, September 2005.
- C27. A. Nacul, T. Givargis. Lightweight Multitasking Support for Embedded Systems using the Phantom Serializing Compiler. Design Automation and Test in Europe (DATE), pp. 742-747, Munich, March 2005.
- C26. A. Ghosh, T. Givargis. LORD: A Localized, Reactive and Distributed Protocol for Node Scheduling in Wireless Sensor Networks. Design Automation and Test in Europe (DATE), pp. 190-195, Munich, March 2005.
- C25. A. Mandal, C.V. Lopes, T. Givargis, A. Haghighat, R. Jurdak, P. Baldi. Beep: 3D Indoor Positioning Using Audible Sound. IEEE Consumer Communications and Networking Conference (CCNC), pp. 348-353, Las Vegas, January 2005.
- C24. A. Nacul, T. Givargis. Code Partitioning for Synthesis of Embedded Applications with Phantom. International Conference on Computer-Aided Design (ICCAD), pp. 190-196, San Jose, November 2004.
- C23. A. Nacul, T. Givargis. Dynamic Voltage and Cache Reconfiguration for Low Power. Design Automation and Test in Europe (DATE), pp. 1376-1377, Paris, February 2004.
- C22. M. Buss, T. Givargis, N. Dutt. Exploring Efficient Operating Points for Voltage Scaled Embedded Processor Cores. Real-Time Systems Symposium (RTSS), pp. 275-281, Cancun, December 2003.
- C21. A. Ghosh, T. Givargis. Cache Optimization for Embedded Processor Cores: An Analytical Approach. International Conference on Computer-Aided Design (ICCAD), pp. 342-347, San Jose, November 2003.
- C20. T. Givargis. Improved Indexing for Cache Miss Reduction in Embedded Systems. Design Automation Conference (DAC), pp. 872-880, Anaheim, June 2003.

- C19. A. Ghosh, T. Givargis. Analytical Design Space Exploration of Caches for Embedded Systems. Design Automation and Test in Europe (DATE), pp. 650-655, Munich, March 2003.
- C18. T. Givargis, D. Eppstein. Reference Caching Using Unit Distance Redundant Codes for Activity Reduction on Address Buses. International Workshop on Embedded System Hardware/Software Codesign (ESCODES), San Jose, September 2002.
- C17. M. Palesi, T. Givargis. Multi-Objective Design Space Exploration Using Genetic Algorithms. International Workshop on Hardware/Software Codesign (CODES), Estes Park, May 2002.
- C16. T. Givargis, F. Vahid, J. Henkel. System-Level Exploration for Pareto-Optimal Configurations in Parameterized Systems-on-a-Chip. International Conference on Computer-Aided Design (ICCAD), San Jose, November 2001.
- C15. T. Givargis, F. Vahid. J. Henkel. Trace-Driven System-Level Power Evaluation of System-on-a-Chip Peripheral Cores. Asia and South Pacific Design Automation Conference (ASP-DAC), Yokohama, January 2001.
- C14. G. Stitt, F. Vahid, T. Givargis, R. Lysecky. A First-Step Towards an Architecture Tuning Methodology. International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES), San Jose, November 2000.
- C13. T. Givargis, F. Vahid, J. Henkel. Instruction-Based System-Level Power Evaluation of System-ona-Chip Peripheral Cores. International Symposium on System Synthesis (ISSS), Madrid, September 2000.
- C12. R. Lysecky, F. Vahid, T. Givargis. Experiments with the Peripheral Virtual Component Interface. International Symposium on System Synthesis (ISSS), Madrid, September 2000.
- C11. T. Givargis, F. Vahid. Parameterized System Design. International Workshop on Hardware/Software Codesign (CODES), San Diego, May 2000.
- C10. T. Givargis, F. Vahid, J. Henkel. Fast Cache and Bus Power Estimation for Parameterized Systemon-a-Chip Design. Design Automation and Test in Europe (DATE), Paris, March 2000.
- C9. R. Lysecky, F. Vahid, T. Givargis. Techniques for Reducing Read Latency of Core Bus Wrappers. Design Automation and Test in Europe (DATE), Paris, March 2000. 2000 DATE Best Paper Award.
- **C8.** T. Givargis, F. Vahid. J. Henkel. A Hybrid Approach for Core-Based System-Level Power Modeling. Asia and South Pacific Design Automation Conference (ASPDAC), Yokohama, January 2000.
- C7. T. Givargis, J. Henkel, F. Vahid. Interface and Cache Power Exploration for Core-Based Embedded System Design. International Conference on Computer-Aided Design (ICCAD), San Jose, November 1999.
- C6. R. Lysecky, F. Vahid, T. Givargis, R. Patel. Pre-Fetching for Improved Core Interfacing. International Symposium on System Synthesis (ISSS), San Jose, November 1999.
- C5. J. Farrell, T. Givargis. Experimental Differential GPS Reference Station Evaluation. American Control Conference (ACC), San Diego, June 1999.
- C4. J. Farrell, T. Givargis. M. Barth. Differential Carrier Phase GPS-Aided INS for Automotive Applications. American Control Conference (ACC), San Diego, June 1999.
- C3. F. Vahid, T. Givargis. The Case for a Configure-and-Execute Paradigm. International Workshop on Hardware/Software Codesign (CODES), Rome, May 1999.

- C2. F. Vahid, T. Givargis. Incorporating Cores into System-Level Specification. International Symposium on System Synthesis (ISSS), Hsinchu, December 1998.
- C1. T. Givargis, F. Vahid. Interface Exploration for Reduced Power in Core-Based Systems. International Symposium on System Synthesis (ISSS), Hsinchu, December 1998.

Workshop

- W2. A. Nacul, M. Lajolo, T. Givargis. Interface-Centric Abstraction Level for Rapid Hardware/Software Integration. Forum on Specification and Design Languages (FDL), Lausanne, September 2005.
- W1. A. Haghighat, C. Lopes, T. Givargis, A. Mandal. Location-Aware Web System. Workshop on Building Software for Pervasive Computing at the Object-Oriented Programming, Systems, Languages and Applications (OOPSLA) Conference, Vancouver, October 2004.

Miscellaneous

M1. U. Brinkschulte, M. Cinque, T. Givargis, S. Russo. Guest Editorial. Journal of Software, vol. 4, no. 7, pp. 631-633, September 2009.

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- Nabeel Alzahrani, Department of Computer Science & Engineering, University of California, Riverside, 11/10/2020.
- Joe Michael Allen, Department of Computer Science & Engineering, University of California, Riverside, 10/13/2020.
- Praveen Venkateswaran, Department of Computer Science, University of California, Irvine, 6/21/2019.
- Joe Michael Allen, Department of Computer Science & Engineering, University of California, Riverside, 23/5/2019.
- Aniket Shivam, Department of Computer Science, University of California, Irvine, 5/21/2018.
- Tiago Muck, Department of Computer Science, University of California, Irvine, 2/7/2018.

- Sajjad Taheri, Department of Computer Science, University of California, Irvine, 12/4/2017.
- Joel Fuentes, Department of Computer Science, University of California, Irvine, 11/16/2017.
- Congmiao Li, Department of Electrical Engineering & Computer Science, University of California, Irvine, 5/23/2016.
- Saman Jafarlou, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/16/2016.
- Hossein Mohammadnezhad, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/2/2015.
- Korosh Vatanparvar, Department of Electrical Engineering & Computer Science, University of California, Irvine, 9/14/2015.
- Zana Ghaderi, Department of Computer Science, University of California, Irvine, 7/28/2015.
- Chenying Hsieh, Department of Computer Science, University of California, Irvine, 7/9/2015.
- Bryan Donyanavard, Department of Computer Science, University of California, Irvine, 6/12/2015.
- Tim Schmidt, Department of Electrical Engineering & Computer Science, University of California, Irvine, 6/1/2015.
- Tiago Mück, Department of Computer Science, University of California, Irvine, 6/1/2015.
- Tongsheng Geng, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/10/2014.
- Jurngyu Park, Department of Computer Science, University of California, Irvine, 9/23/2014.
- Hossein Tajik, Department of Computer Science, University of California, Irvine, 9/16/2013.
- SeungJae Lee, Department of Computer Science, University of California, Irvine, 8/19/2013.
- Jun Luan, Department of Electrical Engineering & Computer Science, University of California, Irvine, 2/11/2013.
- Francis Caster, Department of Electrical Engineering & Computer Science, University of California, Irvine, 2/8/2013.
- Gulfem Savrun Yeniceri, Department of Computer Science, University of California, Irvine, 1/16/2013.
- Aras Pirbadian, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/13/2012.
- Abbas Banaiyanmofrad, Department of Computer Science, University of California, Irvine, 7/17/2012.
- Siavash Ahrar, Department of Biomedical Engineering, University of California, Irvine, 6/15/2012.
- Zheng Wang, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/14/2012.
- Pei-Yuan, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/12/2012.
- Christoph Kerschbaumer, Department of Computer Science, University of California, Riverside, 11/29/2011.

- Brett Chien, Department of Electrical Engineering & Computer Science, University of California, Irvine, 11/28/2011.
- Mehryar Rahmatian, Department of Computer Science, University of California, Irvine, 9/16/2010.
- Deepak Mishra, Department of Computer Science, University of California, Irvine, 9/15/2010.
- Dali Zhao, Department of Computer Science, University of California, Irvine, 9/2/2010.
- Tae Su Kim, Department of Computer Science, University of California, Irvine, 3/19/2010.
- Zhiming Chen, Department of Computer Science & Engineering, University of California, Irvine, 12/10/2009.
- Hessam Kooti, Department of Computer Science, University of California, Irvine, 12/7/2009.
- Vahid Salmani, Department of Computer Science & Engineering, University of California, Irvine, 12/2/2009.
- Marcelo Cintra, Department of Computer Science, University of California, Irvine, 11/17/2009.
- Patricia Lee, Department of Computer Science, University of California, Irvine, 9/18/2009.
- Rosario Cammarota, Department of Computer Science, University of California, Irvine, 9/17/2009.
- Kazuyuki Tanimura, Department of Computer Science, University of California, Irvine, 9/3/2009.
- Matthew Badin, Department of Computer Science, University of California, Irvine, 6/4/2009.
- Michael Bebenita, Department of Computer Science, University of California, Irvine, 5/29/2009.
- Mason Chang, Department of Computer Science, University of California, Irvine, 5/27/2009.
- Sangwon Chae, Department of Computer Science, University of California, Irvine, 12/9/2008.
- Wendy Zhang, Department of Computer Science, University of California, Irvine, 12/8/2008.
- Fred Tzeng, Department of Computer Science & Engineering, University of California, Irvine, 1/31/2008.
- Minyoung Kim, Department of Computer Science, University of California, Irvine, 1/15/2008.
- AmirHossein GholamiPour, Department of Computer Science, University of California, Irvine, 12/11/2007.
- Shahin Golshan, Department of Computer Science, University of California, Irvine, 12/10/2007.
- Scott Hendrickson, Department of Informatics, University of California, Irvine, 11/16/2007.
- David Sheldon, Department of Computer Science & Engineering, University of California, Riverside, 10/24/2007.
- Scott Sirowy, Department of Computer Science & Engineering, University of California, Riverside, 10/24/2007.
- Yonghyun Hwang, Department of Computer Science, University of California, Irvine, 9/19/2007.
- Zhen Zhang, Department of Computer Science, University of California, Irvine, 9/4/2007.
- Jing Qian, Department of Electrical Engineering & Computer Science, University of California, Irvine, 9/4/2007.
- Babak Salamat, Department of Computer Science, University of California, Irvine, 5/15/2007.

- Sudeep Pasricha, Department of Computer Science, University of California, Irvine, 2/7/2007.
- Deyi Pi, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/5/2006.
- Seung Eun Lee, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/1/2006.
- Jayram Nageswaran, Department of Computer Science, University of California, Irvine, 11/14/2006.
- Gabor Madl, Department of Computer Science, University of California, Irvine, 9/6/2006.
- Lei Zhou, Department of Electrical Engineering & Computer Science, University of California, Irvine, 6/16/2006.
- Love Singhal, Department of Computer Science, University of California, Irvine, 6/12/2006.
- Ilya Issenin, Department of Computer Science, University of California, Irvine, 5/23/2006.
- Sevin Fide, Department of Electrical Engineering & Computer Science, University of California, Irvine, 5/16/2006.
- Farzad Etemadi, Department of Electrical Engineering & Computer Science, University of California, Irvine, 4/13/2006.
- Vasanth Venkatachalam, Department of Computer Science, University of California, Irvine, 4/11/2006.
- Jiwon Hahn, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/28/2006.
- Ersin Sengul, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/8/2006.
- Daniel Jesus Valencia Sanchez, Department of Computer Science, University of California, Irvine, 2/24/2006.
- Hooman Torabi Parizi, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/15/2005.
- Afshin Niktash, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/13/2005.
- Jun Ho Bahn, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/7/2005.
- Chulsung Park, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/6/2005.
- Aseem Gupta, Department of Electrical Engineering & Computer Science, University of California, Irvine, 9/14/2005.
- Gunar Schirner, Department of Computer Science, University of California, Irvine, 9/6/2005.
- Pramod Chandraiah, Department of Electrical Engineering & Computer Science, University of California, Irvine, 9/6/2005.
- Yan Huang, Department of Computer Science, University of California, Irvine, 8/24/2005.
- Partha Biswas, Department of Computer Science, University of California, Irvine, 6/13/2005.

- Jiming Liu, Department of Computer Science, University of California, Irvine, 5/6/2005.
- Pablo Diaz Gutierrez, Department of Computer Science, University of California, Irvine, 3/24/2005.
- Srinivas Vadlamani, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/16/2005.
- Rafael Lopez, Department of Computer Science, University of California, Irvine, 2/2/2005.
- Kiran Ramineni, Department of Computer Science, University of California, Irvine, 12/9/2004.
- Seung-mok Yoo, Department of Electrical Engineering & Computer Science, University of California, Irvine, 12/7/2004.
- Chen Liu, Department of Electrical Engineering & Computer Science, University of California, Irvine, 11/30/2004.
- Ashish Bhargave, Department of Electrical Engineering & Computer Science, University of California, Irvine, 11/2005/2004.
- Cristian Petrescu-Prahova, Department of Computer Science, University of California, Irvine, 9/13/2004.
- Shireesh Verma, Department of Computer Science, University of California, Irvine, 9/9/2004.
- Chris Fensch, Department of Computer Science, University of California, Irvine, 9/8/2004.
- Ning Wang, Department of Computer Science, University of California, Irvine, 9/1/2004.
- Enis Akay, Department of Electrical Engineering & Computer Science, University of California, Irvine, 6/2004/2004.
- Amir Kamalizad, Department of Electrical Engineering & Computer Science, University of California, Irvine, 6/3/2004.
- Deepak Chandra, Department of Computer Science, University of California, Irvine, 3/30/2004.
- Chunhui Zhang, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/15/2004.
- David Lee, Department of Chemistry, University of California, Irvine, 5/7/2003.
- Jinfeng Liu, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/20/2003.
- Mehrdad Reshadi, Department of Computer Science, University of California, Irvine, 3/19/2003.
- Chengzhi Pan, Department of Electrical Engineering & Computer Science, University of California, Irvine, 3/12/2003.
- Samar Abdi, Department of Computer Science, University of California, Irvine, 9/12/2002.
- Marcio Dias, Department of Informatics, University of California, Irvine, 6/3/2002.
- Chris Lüer, Department of Informatics, University of California, Irvine, 5/14/2002.
- Dongwan Shin, Department of Computer Science, University of California, Irvine, 9/20/2001.
- John Xie, Department of Computer Science, University of California, Irvine, 9/20/2001.
- Haobo Yu, Department of Computer Science, University of California, Irvine, 9/20/2001.
- Junyu Peng, Department of Computer Science, University of California, Irvine, 9/14/2001.

Senior Project Faculty Mentor (EECS 159)

- Carlos Puentes, Computer Science & Engineering, 2019-2020.
- Kenney Phan, Computer Science & Engineering, 2019-2020.
- Christian Hernandez, Computer Science & Engineering, 2019-2020.
- Amy Yee, Computer Science & Engineering, 2019-2020.
- Chalida Pisuraj, Computer Science & Engineering, 2019-2020.
- Serena Thao Do, Computer Science & Engineering, 2019-2020.
- Tim Nguyen, Computer Science & Engineering, 2019-2020.
- Judith Dilini Rupasinghe, Computer Science & Engineering, 2019-2020.
- Kyla Celine Quilos, Computer Science & Engineering, 2019-2020.

Individual Study Faculty Mentor (CS 199)

- Nadia Sadri, Department of Computer Science, University of California, Irvine, Summer 2019.
- Carlos David II Puentes, Department of Computer Science, University of California, Irvine, Spring 2019.
- Farnaz Safaei Takhtefoulad, Department of Computer Science, University of California, Irvine, Spring 2019.
- Tianyi Yang, Department of Computer Science, University of California, Irvine, Spring 2019.
- Jay Cheng, Department of Computer Science, University of California, Irvine, Spring 2019.
- Natalie Moshayedi, Department of Computer Science, University of California, Irvine, Summer 2015.
- Desiree Moshayedi, Department of Computer Science, University of California, Irvine, Summer 2015.
- Farshad Momtaz, Department of Computer Science, University of California, Irvine, Fall 2013, Winter 2014, Fall 2014.
- Jeanelle Castro, Department of Computer Science, University of California, Irvine, Winter 2013.
- Ina Li Liu, Department of Computer Science, University of California, Irvine, Fall 2012.
- Faraz Milani, Department of Electrical Engineering, University of California, Irvine, Spring 2012.
- Samir Majumdar, Department of Computer Science, University of California, Irvine, Summer 2011.
- Remington Brasga, Department of Computer Science, University of California, Irvine, Spring 2011.
- Jillian Gluck, Department of Computer Science, University of California, Irvine, Fall 2010.
- Sterling Pearson, Department of Computer Science, University of California, Irvine, Fall 2010.

Campus Wide Honors Research Faculty Mentor

- Serena Thao Do, Computer Science & Engineering, 2019-2020.
- Carlos David II Puentes, Information & Computer Sciences, University of California, Irvine, 2019-2020.
- Christopher Joseph Dipalma, Information & Computer Sciences, University of California, Irvine, 2019-2020.

Undergraduate Research Opportunities Program (UROP) Faculty Mentor

- Jonathan Wai-Shing Low, Computer Science & Engineering, University of California, Irvine, 2021.
- Manish Sinha, Information & Computer Sciences, University of California, Irvine, 2007.
- Hussien Sleiman, Information & Computer Sciences, University of California, Irvine, 2005.
- Luis Angel, Information & Computer Sciences, University of California, Irvine, 2005.
- Martin Yasin, Information & Computer Sciences, University of California, Irvine, 2005.
- Anton Popov, Information & Computer Sciences, University of California, Irvine, 2005.
- Nick Mangano, Information & Computer Sciences, University of California, Irvine, 2005.
- Harvey Herela, Information & Computer Sciences, University of California, Irvine, 2005.
- Chad Christensen, Information & Computer Sciences, University of California, Irvine, 2005.
- Adam Wasserstrom, Information & Computer Sciences, University of California, Irvine, 2005.
- Lu Q Zheng, Information & Computer Sciences, University of California, Irvine, 2005.
- Ray Shen, Information & Computer Sciences, University of California, Irvine, 2005.
- Long Ting Kan, Information & Computer Sciences, University of California, Irvine, 2005.

Summer Undergraduate Research Program (SURP) Faculty Mentor

- John Liu, Computer Science & Engineering, University of California, Riverside, 2003.
- Kenny Vu, Information & Computer Sciences, University of California, Irvine, 2002.