JASON D. BAKOS
Professor
Department of Computer Science and Engineering
University of South Carolina, Columbia, SC 29208
(803) 777-8627 (voice), (803) 777-3767 (fax)
jbakos@cse.sc.edu

EDUCATION

2005	Ph.D., Computer Science, University of Pittsburgh Dissertation: "Lightweight Hierarchical Error Control Codes for Multi-Bit Differential Channels"
June 1999	B.S. with Honors, Computer Science, Youngstown State University

POSITIONS AND EMPLOYMENT

2017-	Professor, Dept. of Computer Science and Engineering Associate Undergraduate Director, Dept. of Computer Science and Engineering Chair, Scholarship Committee, College of Engineering and Computing Senator, Faculty Senate University of South Carolina
2011-2017	Associate Professor (tenured), Dept. of Computer Science and Engineering Associate Undergraduate Director, Dept. of Computer Science and Engineering University of South Carolina
2005-2011	Assistant Professor, Dept. of Computer Science and Engineering University of South Carolina
1999-2005	Research/Teaching Assistant, Dept. of Computer Science University of Pittsburgh

HONORS AND AWARDS

2009	NSF CAREER Award Recipient (Award Number CCF-0844951)
2007	Appointed, ACM Upsilon Pi Epsilon
2004	Third place winner, DAC/ISSCC Student Design Contest, 41st Annual IEEE/ACM Design Automation Conference, Paper Title: "SiGe Prototype Chip Design Implementing CMOS Fixed Bit-Load Drivers and Receivers for Next Generation High-Speed Board-Level Interconnect"
2004	First place winner, 5th Annual Compunetix Graduate Student Research Competition, University of Pittsburgh, Paper Title: "Hierarchical Error Correction Codes over Multi-Bit Differential Signaling"
2002	Second place winner, DAC/ISSCC Student Design Contest, 39th Annual IEEE/ACM Design Automation Conference, Paper Title: "Design of a Crossbar Switch Chip for Use in a Demonstration System of an Optoelectronic Multi-Chip Module"

PUBLICATIONS

Books

B1 Jason D. Bakos, "Embedded Systems: ARM Programming and Optimization," Morgan-Kaufmann Publishers (textbook), 314 pages, 2015.

Patents

P1 Jason D. Bakos, "System and method for sparse matrix vector multiplication processing," US patent number US20120278376.

P2 Bo Wang, Antonello Monti, Jason Bakos, Marco Riva, "Driver Circuit for Gallium Nitride (GaN) Heterojunction Field Effect Transistors (HFETS)," U.S. Patent Number US8054110.

Journal Publications ***(student authors in italics)***

J1 *Matthew Milton*, Andrea Benigni, Jason Bakos, "System-Level, FPGA-Based, Real-Time Simulation of Ship Power Systems," IEEE Trans. on Energy Conversion, *in press.*

J2 *Zheming Jin*, Jason D. Bakos, "Memory Interface Design for 3D Stencil Kernels on a Massively Parallel Memory System," ACM Transactions on Reconfigurable Technology and Systems (TRETS), Vol. 8, Issue. 4, 2015.

J3 *Ibrahim Savran*, *Yang Gao*, Jason D. Bakos, "Large-scale Pairwise Sequence Alignments on a Large-scale GPU Cluster," IEEE Design and Test, January/February 2014, *invited.*

J4 *Fan Zhang*, *Yan Zhang*, Jason D. Bakos "Accelerating Frequent Itemset Mining on Graphics Processing Units," Journal of Supercomputing, February 2013.

J5 *Zheming Jin*, Jason D. Bakos, "A Heuristic Scheduler for Port-Constrained Floating-Point Pipelines," International Journal of Reconfigurable Computing, Vol. 2013, Article ID 849545, 9 pages, 2013.

J6 *Zheming Jin*, Jason D. Bakos, "Extending the BEAGLE Library to a Multi-FPGA Platform," BMC Bioinformatics, 2013, 14:25.

J7 *Yan Zhang*, *Fan Zhang*, *Zheming Jin*, Jason D. Bakos, "An FPGA-Based Accelerator for Frequent Itemset Mining," ACM Trans. Reconfigurable Technology and Systems (TRETS), Vol. 6, Issue 1, May 2013.

J8 *Tiffany M. Mintz*, Jason D. Bakos, "A Cluster-on-a-Chip Architecture for High-Throughout Phylogeny Search," IEEE Trans. on Parallel and Distributed Systems, Vol. 23, No. 4, April 2012.

J9 Jason D. Bakos, "High-Performance Heterogeneous Computing with the Convey HC-1," Computing in Science and Engineering, Vol. 12, No. 6, November/December 2010, *invited*.

J10 *Bo Wang*, Marco Riva, Jason D. Bakos, Antonello Monti, "Integrated Circuit Implementation for a GaN HFET Driver Circuit," IEEE Trans. on Industry Applications, IEEE Trans. Industry Applications, Vol. 46, No. 5, Sept./Oct. 2010.

J11 *Stephanie Zierke*, Jason D Bakos, "FPGA acceleration of the phylogenetic likelihood function for Bayesian MCMC inference methods," BMC Bioinformatics 2010, 11:184.

J12 Jason D. Bakos, *Panormitis E. Elenis*, "A Special-Purpose Architecture for Solving the Breakpoint Median Problem," IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Vol. 16, No. 12, Dec. 2008.

J13 Jason D. Bakos, Donald M. Chiarulli, Steven P. Levitan, "Lightweight Error Correction Coding for System-Level Interconnects," IEEE Transactions on Computers, Vol. 56, No. 3, March 2007.

Peer-reviewed Conference Publications Post Faculty Appointment *(student authors in italics)*

C1 Jason D. Bakos, *Ivan Panchenko*, Herb Ginn, "Control System Communication Architecture for Power Electronic Building Blocks," 2017 IEEE Electric Ship Technologies Symposium.

C2 *Rasha Karakchi, Jordan Bradshaw,* Jason D. Bakos*,* "High-Level Synthesis of a Genomic Database Search Engine," Proc. 2016 International Conference on Reconfigurable Computing and FPGAs (ReConFig 2016).

C3 *Jordan Bradshaw*, *Rasha Karakchi*, Jason D. Bakos, "Two-Hit Filter Synthesis for Genomic Database Search," Proc. 24th IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM 2016).

C4 *Fan Zhang*, *Yang Gao*, Jason D. Bakos, "Lucas-Kanade Optical Flow Estimation on the TI C66x Digital Signal Processor," Proc. 18th Annual IEEE High Performance Extreme Computing Conference (HPEC 2014), Sept. 2014.

C5 *Yang Gao*, *Fan Zhang*, Jason D. Bakos, "Sparse Matrix-Vector Multiply on the Keystone II Digital Signal Processor," Proc. 18th Annual IEEE High Performance Extreme Computing Conference (HPEC 2014), Sept. 2014.

C6 *Krishna Nagar*, Jason D. Bakos, "Accuracy, Cost, and Performance Tradeoffs for Floating-Point Accumulation," Proc. 2013 International Conference on Reconfigurable Computing and FPGAs (ReConFig 2013).

C7 *Yang Gao*, Jason D. Bakos, "Sparse Matrix-Vector Multiply on the Texas Instruments C6678 Digital Signal Processor," Proc. The 24th IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP 2013), Washington D.C., June 5-7, 2013.

C8 *Zheming Jin*, Jason D. Bakos, "Memory Access Scheduling on the Convey HC-1," Proc. The 21st IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM 2013), Seattle, Washington, April 28-30, 2013.

C9 *Yang Gao*, Jason D. Bakos, "GPU Acceleration of Pyrosequencing Noise Removal," Proc. 2012 Symposium on Application Accelerators in High-Performance Computing (SAAHPC 2012).

C10 *Yan Zhang*, *Fan Zhang*, Jason D. Bakos, "Frequent Itemset Mining on Large-Scale Shared Memory Machines," Proc. IEEE International Conference on Cluster Computing (CLUSTER 2011), Sept. 26-30, 2011.

C11 *Fan Zhang*, *Yan Zhang*, Jason D. Bakos, "GPApriori: GPU-Accelerated Frequent Itemset Mining," Proc. IEEE International Conference on Cluster Computing (CLUSTER 2011), Sept. 26-30, 2011.

C12 *Krishna K. Nagar*, Jason D. Bakos, "A Sparse Matrix Personality for the Convey HC-1," Proc. 19th Annual IEEE International Symposium on Field Programmable Custom Computing Machines (FCCM'11), May 1-3, 2011.

C13 *Ibrahim Savran*, Jason D. Bakos, "GPU Acceleration of Near-Minimal Logic Minimization," Proc. 2010 Symposium on Application Accelerators for High-Performance Computing (SAAHPC 2010), July 13-15, 2010.

C14 *Krishna. K. Nagar*, Jason D. Bakos, "A High-Performance Double Precision Accumulator," Proc. 8th IEEE International Conference on Field-Programmable Technology (IC-FPT'09), Dec. 9-11, 2009.

C15 *Yan Zhang*, *Yasser Shalabi*, *Rishabh Jain*, *Krishna K. Nagar*, Jason D. Bakos, "FPGA vs. GPU for Sparse Matrix Vector Multiply," Proc. 8th IEEE International Conference on Field-Programmable Technology (IC-FPT'09), Dec. 9-11, 2009.

C16 *Krishna K. Nagar*, Jason D. Bakos, "An Integrated Reduction Technique for a Double Precision Accumulator," Proc. 3rd International Workshop on High-Performance Reconfigurable Computing Technology and Applications (HPRCTA'09), held in conjunction with Supercomputing 2009 (SC'09), Nov. 15, 2009.

C17 Jason D. Bakos, *Krishna K. Nagar*, "Exploiting Matrix Symmetry to Improve FPGA-Accelerated Conjugate Gradient," Proc. 17th Annual IEEE International Symposium on Field Programmable Custom Computing Machines (FCCM'09), April 5-8, 2009.

C18 *Bo Wang*, Marco Riva, Jason D. Bakos, A. Monti, "Integrated Circuit Implementation for a GaN HFETs Driver Circuit," Proc. IEEE Applied Power Electronics Conference and Exposition (APEC 2008), Austin, TX, Feb. 24-28, 2008.

C19 Jason D. Bakos, *Panormitis E. Elenis*, Jijun Tang, "FPGA Acceleration of Phylogeny Reconstruction for Whole Genome Data," Proc. 7th IEEE International Symposium on Bioinformatics & Bioengineering (BIBE 2007), Boston, MA, 14-17 Oct. 2007.

C20 Jason D. Bakos, "FPGA Acceleration of Gene Rearrangement Analysis," Proc. 16th IEEE Symposium on Field-Programmable Custom Computing Machines (FCCM 2007), April 23-25, 2007.

C21 Jason D. Bakos, *Charles L. Cathey*, *E. Allen Michalski*, "Predictive Load Balancing for Interconnected FPGAs," Proc. 16th International Conference on Field Programmable Logic and Applications (FPL 2006), Madrid, Spain, August 28-30, 2006.

C22 *Charles L. Cathey*, Jason D. Bakos, Duncan A. Buell, "A Reconfigurable Distributed Computing Fabric Exploiting Multilevel Parallelism," Proc. 15th IEEE Symposium on Field-Programmable Custom Computing Machines (FCCM 2006), April 24-26, 2006.

Peer-reviewed Conference Publications (while in graduate school)

C23 Donald M. Chiarulli, Sam Dickerson, Jason D. Bakos, Joel R. Martin, Steven P. Levitan, "Efficient Optical Communications Using Multibit Differential Signaling," Proc. SPIE Symposium on Optoelectronics, Photonics West: Photonics Packaging and Integration VIII, Paper No. 6126-16, San Jose, CA, 21-26 January 2006.

C24 Donald M. Chiarulli, Jason D. Bakos, Joel R. Martin, Steven P. Levitan, "Area, Power, and Pin Efficient Bus Transceiver Using Multi-Bit-Differential Signaling," Proc. IEEE International Symposium on Circuits and Systems (ISCAS 2005), pp. 1662 - 1665 Vol. 2, Kobe, Japan, May 23-26, 2005.

C25 Donald M. Chiarulli, Jason D. Bakos, Joel R. Martin, Steven P. Levitan, "Area, power, and pin efficient bus structures using multi-bit-differential signaling," Proc. SPIE Symposium on Microtechnologies for the New Millennium 2005, pp. 5837-04, VLSI Circuits and Systems II, 5837-4, Sevilla, Spain, May 9-11, 2005.

C26 Steven P. Levitan, Donald M. Chiarulli, Sam Dickerson, Jason Bakos, Joel Martin, "Power Efficient Communication Using Multi-Bit-Differential Signaling," Proc. IEEE/LEOS 16th Annual Workshop on Interconnections within High-Speed Digital Systems, Santa Fe, NM, May 8-11, 2005.

C27 Donald M. Chiarulli, Steven P. Levitan, Jason Bakos, Charles Kuznia, "Active Substrates for Optoelectronic Interconnect," Proc. IEEE International Symposium on Circuits and Systems (ISCAS 2004), Volume 5, pp. V-592 - V-595, Vancouver, Canada, May 23-26, 2004.

C28 Donald Chiarulli, Jason Bakos, Leo Selavo, Steven Levitan, John Hansson, Michael Weisser, "Photonic Packaging for Mixed-Technology Sensor Systems," Proc. Topical Meeting on Optics in Computing, European Optical Society (OC 2004), Integrated Photonics Research and Optics in Computing (IPR-OiC'2004), pp. 113-114, Engelberg, Switzerland, April 21-23, 2004.

C29 Steven P. Levitan, Timothy P. Kurzweg, Jose A. Martinez, Mark Kahrs, Jason Bakos, Craig Windish, Jason Boles, John Hansson, Michael Weisser, Charles Kuznia, Donald M. Chiarulli, "Modeling and Simulation of Fiber Image Guide Multi-Chip Modules for MOEMS Applications," Proc. SPIE Photonics West: Micromachining and Microfabrication/MOEMS and Miniaturized Systems IV, Vol. 5346-18, pp. 141-150, San Jose, CA, 25-30 January 2004.

C30 Jason D. Bakos, Donald Chiarulli, and Steven P. Levitan, "Optoelectronic Multi-Chip Module Demonstrator System," in Optics in Computing, OSA Technical Digest, (Optical Society of America, Washington DC, 2003) pp 117-119.

C31 D. Chiarulli, S. Levitan, J. Bakos, "Optoelectronic Multi-Chip Modules," Proc 10th Annual Conference of Mixed Design of Integrated Circuits and Systems (MIXDES2003), Lodz, Poland, June 26-28, 2003.

C32 Leo Selavo, Jason Bakos, Donald M. Chiarulli, Steven P. Levitan, "Encoding Benefits for Fast Optical Transceivers," Proc. 14th IEEE-LEOS Annual Workshop on Interconnections within High-Speed Digital Systems, Santa Fe, New Mexico, 4 – 7 May 2003.

C33 J. D. Bakos, D. M. Chiarulli, and S. P. Levitan, "Optoelectronic Multi-Chip-Module Implementation of a 64 Channel Crossbar Switch," Proc. International Conference of Optics in Computing (OC2002) pp. 161-163, Taipei, Taiwan, April 8-11, 2002.

Dissertations and Theses by Advisees

T1 Jordan Bradshaw, "Regular Expression Synthesis for BLAST Two-Hit Filtering," Ph.D. dissertation, 2016.

T2 Yang Gao, "Automated Scratchpad Mapping and Allocation for Embedded Processors," Ph.D. dissertation, 2014.

T3 Fan Zhang, "Automatic Loop Tuning and Memory Management for Stencil Computations," Ph.D. dissertation, 2014.

T4 Zheming Jin, "Memory Interface Synthesis for FPGA-Based Computing," Ph.D. dissertation, 2014.

T5 Shaun Gause, "Accelerating Short Read Mapping Using a DSP Based Coprocessor," M.S. Thesis, 2013.

T6 Krishna Kumar Nagar, "Accuracy, Cost and Performance Trade-offs for Streaming Set-wise Floating Point Accumulation on FPGAs," Ph.D. dissertation, 2013.

T7 Yan Zhang, "Frequent Itemset Mining on FPGA Co-Processor," Ph.D. dissertation, 2012.
T8 Tiffany Monique Mintz, "Systematic Code Partitioning for the Disjoint-Memory Co-Processor Accelerated Execution Model," Ph.D. dissertation, 2010.
T9 Stephanie Zierke, "A Reconfigurable Implementation of Bayesian Phylogenetic Inference," M.S. Thesis, 2009.

RESEARCH FUNDING

Ongoing Research Support

G1 **Texas Instruments Corporation** (12/2016 - 11/2018)
J. Bakos (PI)
"Automated SoC Resource Mapping for Embedded Computer Vision Applications"
I am the sole PI. The objective of this project is to develop tools to automatically provision, allocate, and manage on-chip resources on heterogeneous ARM+DSP+GPU system-on-chip processors.
$140,000.

G2 **National Science Foundation**
CCF 1421059 (07/2014 - 07/2017)
J. Bakos (PI)
"SHF: Small: Collaborative Research: The Automata Programming Paradigm for Genomic Analysis"
Collaborative project with University of Missouri to build programming models for Automata Processor technology, an emerging processor-in-memory technology.
Total amount is $500,000, USC share is $175,000 + $15,000 in REU supplements.

G3 **Office of Naval Research N00014-15-1-2346** (05/2015 - 04/2017)
H. Ginn (PI), J. Bakos (Co-PI)
"Development of Universal Controller Architecture for SiC Based Power Electronic Building Blocks"
The objective is to develop designs for distributed control of a medium voltage direct-current converter system, built using a network of FPGA-based hardware managers.
Total amount is $400,000, my share is $150,000.

G4 **Various Internal Grants**
J. Bakos (PI): "A Special Purpose Compiler and Processor for Pattern Recognition," $5000 USC SPARC Graduate Research Grant Program, 2016-2017
J. Bakos (PI): "Generalized Hough Transform on the Tegra X1 Embedded SOC Architecture," $1000, USC Magellan Apprentice award, 2017
J.Bakos (PI), "Synthesis of energy efficient neural networks onto a reconfigurable substrate," $1500, USC Honors College SURF award, 2016-2017

Completed Research Support

G4 **Texas Instruments Corporation** (08/2013 - 07/2016)
J. Bakos (PI)
"Kernel Library Development for the Texas Instruments C66 DSP"
The objective of this project is to develop high performance software for the Texas Instruments Keystone-2 Digital Signal Processor (DSP) Architecture. Total amount is $175,000.

G5 **National Science Foundation**
CCF 0844951 (07/2009 - 06/2016)
J. Bakos (PI)
"CAREER: Design Automation for High Performance Reconfigurable Computing"
The objective of this project is to develop programming methodologies for designing FPGA-based accelerators for various applications. This award is currently under a two-year no cost extension.
$495,750

G6 **USC Magellan Award** (internal undergraduate research award) (2015)
J. Bakos (PI)
"Local Alignment Search Built on a Finite Automata Abstractions"
$6000

G7 **South Carolina EPSCoR/IDeA** (2012)
J. Bakos (PI)
"Power Efficiency Instrumentation for DSP-Based Supercomputing"
$6000

G8 **National Science Foundation**
CCF 0915608 (2009 - 2011)
J. Bakos (PI)
"SHF:Small:Co-Processors for High-Performance Genome Analysis"
I am the sole PI. The objective of this project was to develop FPGA-based kernels for applications in genomic analysis.
$155,000.

G9 **Office of Naval Research**
N00014-05-1-0734 (2007 - 2011)
A. Monti (PI), J. Bakos (Co-PI)
"Frequency-Agile Wide-Bandwidth Power Interface to Support Incremental Virtual Prototyping"
The objective of this project was to design and fabricate silicon-based driver for a GaN HFET.
My share was $48,734.

G10 **Department of Energy GA-04-7001-00** (2007 - 2011)
Subcontract from Center for Transportation and the Environment (CTE)/DOT
J. Bakos (PI)
"Dual Variable Output Fuel Cell Hybrid Bus Testing and Demonstration Project"
The objective of this project was to characterize data generated from instrumentation aboard the hybrid hydrogen fuel-cell bus demonstration at Central Midlands RTA and the University of South Carolina. Total amount is $312,080.
My share was $80,000.

G11 **USC Magellan Award** (internal undergraduate research award) (2006)
J. Bakos (PI)
"MGS: Efficient Router Designs for Special-Purpose Distributed Processing Systems"
$3000.

SERVICE ACTIVITES

Conference Chair Positions

2017	Co-chair, Workshop on Heterogeneous High-performance Reconfigurable Computing (H2RC)
2017	General chair, IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM)
2016	Co-chair, Workshop on Heterogeneous High-performance Reconfigurable Computing (H2RC)
2016	Program chair, IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM)
2016	Co-chair, International Conference on Reconfigurable Computing and FPGAs (ReConFig)
2010-2015	Publication chair, IEEE Intern'l Symposium on Field-Programmable Custom Computing Machines (FCCM)
2015	Co-chair, International Conference on Reconfigurable Computing and FPGAs (ReConFig)
2015	Co-chair, Workshop on Heterogeneous High-performance Reconfigurable Computing (H2RC)

Editorships

2017	Editor, Special Issue of TRETS on FCCM 2016
2012-current	Associate editor, ACM Transactions on Reconfigurable Technology and Systems (TRETS)
2008-2012	Information director, ACM Transactions on Reconfigurable Technology and Systems (TRETS)

Conference Technical Program Committees

2017	ACM International Conference on Computing Frontiers (CF-17)
2017	Intern'l Conf. on High Performance Compilation, Computing and Communications (HP3C)
2016	Workshop on Heterogeneous High-performance Reconfigurable Computing (H2RC), 2016
2011-2017	IEEE Intern'l Symp. on Field-Programmable Custom Computing Machines (FCCM)
2013-2017	IEEE Intern'l Conf. on Application-Specific Systems, Architectures, and Processors (ASAP)
2011-2016	Intern'l Conf. on Reconfigurable Computing and FPGAs (ReConFig)
2010-2016	Intern'l Conf. on High Performance Computing & Simulation (HPCS)
2011-2016	Reconfigurable Architectures Workshop (RAW)
2011-2012	Symp. of Application Accelerators for High Performance Computing (SAAHPC)

2011	IEEE Intern'l Forum on Embedded Multiprocessor System-on-Chip and Multicore (MPSoC)
2009-2010	Workshop on High-Performance Reconfigurable Computing Technology and Applications (HPRCTA)
2006-2009	IEEE Intern'l Symp. on Circuits and Systems (ISCAS)
2007-2009	IEEE Congress on Evolutionary Computation (CEC)
2008	IEEE World Congress on Computational Intelligence (WCCI)
2007	IEEE Intern'l Conf. on Computational Intelligence and Security (CIS)

Journal Reviewer
IEEE Transactions on Computers
IEEE Transactions on Very Large Scale Integration (VLSI) Systems
IEEE Transactions on Parallel and Distributed Systems (TPDS)
IEEE Transactions on Communications (TC)
IEEE Transactions on Design and Test of Computers
IEEE Transactions on Computer Aided Design (TCAD)
IEEE Transactions on Computer Aided Design of Integrated Circuits and Systems
IEEE Transactions on Dependable and Secure Computing
IEEE/ACM Transactions on Computational Biology and Bioinformatics
IEEE Design and Test
IEEE Spectrum
ACM Transactions on Reconfigurable Technology and Systems (TRETS)
ACM Transactions on Design Automation of Electronic Systems (TODAES)
ACM Transactions on Architecture and Code Optimization (TACO)
International Journal of Reconfigurable Computing
International Journal of Parallel, Emergent, and Distributed Systems
Elsevier Journal of Parallel Computing
IET Circuits, Devices, and Systems
Elsevier Integration, the VLSI Journal
Bioinformatics
BMC Bioinformatics
Journal of Bioinformatics
Journal of Circuits, Systems, and Computers
Journal of Parallel and Distributed Computing
Oxford Computer Journal
Hindawi VLSI Design
MDPI Computation

Panel Participation
NSF (7 on-site panels + 4 ad hoc reviews)
NSERC (Canadian NSF) ad hoc reviewer
Qatar National Research Fund ad hoc reviewer
University of South Carolina Internal Grant Review Panel (multiple)

University Service
Faculty Advisor, Phi Kappa Tau fratnerity
Faculty Advisor, USC Bass Fishing Club
Faculty Advisor, USC Wakeboarding Club

PROFESSIONAL MEMBERSHIPS
ACM
IEEE
Upsilon Pi Epsilon
Computer Society

INVITED SEMINARS (NOT INCLUDING CONFERENCE/WORKSHOP TALKS)
2012	Research overview, CUNY NSF Workshop on Accelerators in High Performance Computing
2011	Research overview, EPSCoR Workshop at USC for Desktop to Teragrid Project
2010	Research overview, EPSCoR Workshop at Clemson for Desktop to Teragrid Project
2008	Teaching overview, Reconfigurable Computing in Undergraduate Education, UNC-Charlotte
2008	Research overview, UNC-Charlotte

TEACHING AND MENTORING EXPERIENCE

Courses Taught (at USC)
CSCE 212 Introduction to Computer Architecture
CSCE 313 Embedded System Design
CSCE 490/491/492 Capstone Computer System Project
CSCE 611 Advanced Digital Design
CSCE 612 VLSI Design
CSCE 613 VLSI Design 2
CSCE 713 Advanced Topics in Computer Architecture

Graduated Ph.D. Students
2016 **Jordan Bradshaw**, first position at Elauwit
2014 **Yang Gao**, first position at Qualcomm, Now at Google
2014 **Fan Zhang**, first position at Google
2014 **Zheming Jin**, first position as postdoctoral researcher at University of Alabama, now at Argonne National Laboratory
2013 **Krishna Kumar Nagar**, first position at Imagination Technologies, now at Altera (now Intel)
2012 **Yan Zhang**, first position at SK Hynix (world's second largest memory chip maker)
2010 **Tiffany M. Mintz**, first position as staff scientist at Oak Ridge National Laboratory

Graduated M.S. Students
2013 **Shaun Gause**, first position at Department of Homeland Security
2009 **Stephanie Zierke**, first position at Hewlett-Packard, now at Intel

Undergraduate Research Supervision
Asif Khan (2006), Shaun Gause (internally funded, 2007), Patrick Moran (REU, 2009), Yasser Shalabi (REU, 2009), Ross Roessler (REU, 2010), Peter Swanson (REU, 2010), Kino Harding (internally funded, 2010), Kevin Thompson (REU, 2011), Aaron Speed (REU, 2011), Benjamin Morgan (REU, 2012-2013), Nicholas Mauro (REU, 2012),Jonathan Kilby (REU, 2013), Daniel Clements (REU, 2014), Lacie Cochran (REU, 2014-2015), Friel Scott (REU, 2015), Charles Daniels (REU, 2015), Spencer Perry (REU, 2016), Jonathan Livingston (REU, 2016)

Other Research Supervision
2016 M.S. Committee, **Matthew Milton** (Electrical Engineering)
2016 Ph.D. Committee, **Jonathan Siegers** (Electrical Engineering)
2015 M.S. Committee, **Subhro Kar**, first position at Red Hat
2012 Ph.D. Committee, **Yiwei Zhang**, first position at Microsoft
2011 Ph.D. Committee, **William Arndt**, first position at Howard Hughes Medical Institute
2011 Ph.D. Committee, **Jian Shi**, first position at Unitrends
2009 Ph.D. Committee, **Bo Wang** (Electrical Engineering), first position at Texas Instruments
2008 Ph.D. Committee, **Laura Taylor** (Statistics), first position as assistant professor, now associate professor at Elon University