

# Douglas Michael Densmore

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US Citizen

## Education

- **University of California, Berkeley** Berkeley, California USA  
*Ph.D., Electrical Engineering* 9/01 - 5/07
  - **Dissertation:** “A Design Flow for the Development, Characterization, and Refinement of System Level Architectural Services”
  - **Advisor:** Prof. Alberto Sangiovanni-Vincentelli
    - \* Additional Thesis Committee: Prof. Jan Rabaey (EECS) and Prof. Lee Schruben (IEOR)
  - **Major:** Computer-Aided Design for VLSI
  - **Inside Minor:** Computer Architecture
  - **Outside Minor:** Management of Technology (MOT Certification)
- **University of California, Berkeley** Berkeley, California USA  
*M.S., Electrical Engineering* 9/01 - 5/04
  - **Thesis:** “Platform Based Reconfigurable Architecture Exploration Via Boolean Constraints”
  - **Thesis Committee:** Prof. Alberto Sangiovanni-Vincentelli and Prof. John Wawrzynek
- **University of Michigan** Ann Arbor, Michigan USA  
*B.S.E., Computer Engineering* 8/96 - 4/01

## Academic Experience

- **Boston University** Boston, Massachusetts USA  
*Assistant Professor in the Department of Electrical and Computer Engineering* 9/10 - Present  
*Richard and Minda Reidy Family Career Development Professor*
  - Affiliated Faculty in the Department of Biomedical Engineering, Bioinformatics, and MCBB
  - Synthetic Biology Engineering Research Center (SynBERC) Affiliated Investigator
  - Head of the Cross-disciplinary Integration of Design Automation Research (CIDAR) group
  - Developing tools for the specification, design, and assembly of synthetic biological systems using electronic design automation based techniques.
- **Joint BioEnergy Institute (JBEI)** Emeryville, California USA  
*Synthetic Biology Engineering Research Center Postdoctoral Fellow* 9/09 - 6/10
  - Integrating CLOTHO with JBEI's webservice based registry of biological parts.
  - Automating biological device creation via liquid handling robots and alternate assembly strategies.
  - Working with the larger biological community to create data format and exchange standards.
- **University of California, Berkeley** Berkeley, California USA  
*UC Chancellor's Postdoctoral Fellow* 5/07 - 9/09
  - Developed CLOTHO, an integrated development environment for synthetic biological systems.
  - Created EUGENE, a domain specific language for the specification of standard biological parts.
  - **Team leader** for the METRO II project. Coordinated academic and industrial collaborations.
  - Developed architecture modeling, characterization, and execution semantics for METRO II.
  - Created application specific processor networks (ASPNS) from METRO II designs for synthesis.
  - Examined functional equivalence checking through model algebra in the METRO II environment.

- **University of California, Berkeley**

*iGEM Team Instructor*

Berkeley, California USA  
6/08 - 11/08 and 6/09 - 11/09

- Led computational team for MIT’s International Genetically Engineered Machine Competition (iGEM).
- Developed SPECTACLES, a visual editor in CLOTHO for biological devices and systems.
- Coordinated two teams of 10 total undergraduate students.
- Won *back-to-back* “**Best Software Tool**” and a **gold medal** awards in 2008 and 2009.

## Industry Experience

- **Xilinx Research Labs**

San Jose, California USA

*Research Intern*

5/04 - 8/04

- Created performance characterization methodology for Xilinx FPGA based components.
- Modeled Xilinx FPGA architecture components in the METROPOLIS Meta-Model language.
- Created METROPOLIS functional model of JPEG2000 core routines.
- Enhanced METROPOLIS mapping infrastructure for programmable platforms.

- **Cypress Semiconductor**

San Jose, California USA

*Research Intern*

6/02 - 9/02

- Extended my research by modeling a SPI-5 network application in METROPOLIS.
- Created three models at various levels of abstraction; developed refinement methodology.
- Provided feedback to Cypress on the METROPOLIS design methodology versus their RTL flow.

- **Intel Corporation**

Hillsboro, Oregon USA

*System Validation Engineer*

5/01 - 8/01

- Developed tools for the Platform Desktop System Validation team to use in its debug flow.
- Worked with engineers debugging post silicon validation issues with the Pentium 4 microprocessor.
- Wrote various Perl scripts to automate daily validation tasks and processes.

- **Intel Corporation**

Folsom, California USA

*Integrated Components Design Engineer*

5/00 - 8/00

- Validated Intel chipset hardware DFT modes in VHDL and Verilog environments.
- Automated and improved design flow with various Perl and Unix scripts.
- Generated technical documents for use in digital design test modes (XOR and Unit Isolation).

- **Intel Corporation**

Folsom, California USA

*Software Systems Engineer*

5/99 - 8/99

- Responsible for 1st level debug of the Intel UltraATA Storage Performance Driver.
- Ran tests and set up systems for submission to Microsoft’s Windows Hardware Quality Labs.
- Responsible for the conversion of Software Systems Engineering’s internal webpage.

- **Intel Corporation**

Folsom, California USA

*Customer Support Engineer*

5/98 - 12/98

- Provided primary first level technical support for the Intel740 graphics accelerator, Intel PCI/AGP chipsets, and Intel Architecture (processors).
- Developed solutions to technical inquiries for use in a web based user self help interface.
- Developed an internal web site designed to provide graphics and Intel740 issue support.
- Co-Produced a Intel740 troubleshooting document.
- Presented a session on APIs and 3D Acceleration.
- Primary contributor to the “Intel Graphics Accelerators” forum from inception.

## Publications

### BOOK

1. Heinz Koeppl, **Douglas Densmore**, Mario di Bernardo, Gianluca Setti (editors), *Design and Analysis of Bio-Molecular Circuits*, Springer Books, ISBN: 978-1-4419-6765-7, 2011.
2. **Douglas Densmore**, Abhijit Davare, *A Platform-Based Design Methodology for the Electronic System Level: Frameworks, Design Flows, and Case Studies*, VDM Verlag Dr. Mueller, ISBN 3836473143, 2008.

### BOOK CHAPTERS

3. Felice Balarin, Massimiliano D'Angelo, Abhijit Davare, **Douglas Densmore**, Trevor Meyerowitz, Roberto Passerone, Alessandro Pinto, Alberto Sangiovanni-Vincentelli, Alena Simalatsar, Yosinori Watanabe, Guang Yang, Qi Zhu, *Platform-Based Design and Frameworks: Metropolis and Metro II*, Model-Based Design of Heterogeneous Embedded Systems, Gabriela Nicolescu, Pieter Mosterman (Eds.), CRC Press, ISBN 9781420067842, 2009.
4. **Douglas Densmore**, Adam Donlin, Alberto Sangiovanni-Vincentelli, *Programmable Platform Characterization for System Level Performance Analysis*, Platform Based Design at the Electronic System Level, Mark Burton and Adam Morawiec (Eds.), Springer Books, ISBN 1402051379, 2006, pg. 13-30.

### JOURNAL ARTICLES

5. **Douglas Densmore**, Soha Hassoun, *Design Automation in Synthetic Biology*, IEEE Design and Test of Computers, 2012 (to appear).
6. Joanna Chen, **Douglas Densmore**, Timothy S. Ham, Jay D. Keasling, and Nathan J. Hillson, *DeviceEditor Biological CAD Canvas*, Journal of Biological Engineering, 6:1, February 28th, 2012. **PMID: 22373390**
7. Lesia Bilitchenko, Adam Liu, Sherine Cheung, Emma Weeding, Bing, Xia, Mariana Leguia, J. Christopher Anderson, **Douglas Densmore**, *Eugene - A Domain Specific Language for Specifying and Constraining Synthetic Biological Parts, Devices, and Systems*, PLoS ONE, Volume 6, Issue 4, April, 2011. **PMID: 21559524**
8. Mariana Leguia, Jennifer Brophy, **Douglas Densmore** and J. Christopher Anderson, *Automated Assembly of Standard Biological Parts*, Methods in Enzymology, Volume 498, 2011. **PMID: 21601686**
9. Lesia Bilitchenko, Adam Liu, and **Douglas Densmore**, *The Eugene Language for Synthetic Biology*, Methods in Enzymology, Volume 498, 2011. **PMID: 21601677**
10. Bing Xia, Swapnil Bhatia, Ben Bubenheim, Maisam Dadgar, **Douglas Densmore**, and J. Christopher Anderson, *Clotho: A Software Platform for the Creation of Synthetic Biological Systems, A Developers and Users Guide for Clotho v2.0*, Methods in Enzymology, Volume 498, 2011. **PMID: 21601675**
11. **Douglas Densmore**, Timothy H.-C. Hsiau, Joshua T. Kittleson, Will DeLoache, Christopher Batten, J.Christopher Anderson, *Algorithms for Automated DNA Assembly*, Nucleic Acids Research (2010) 38 (8): 2607-2616. **PMID: 203351622010**
12. **Douglas Densmore**, Roberto Passerone, Alberto Sangiovanni-Vincentelli, *A Platform-Based Taxonomy for ESL Design*, IEEE Design and Test of Computers, Vol. 23, No. 5, September/October 2006, pg. 359-374.
13. **Douglas Densmore**, Alberto Sangiovanni-Vincentelli, Adam Donlin, *Leveraging Programmability in Electronic System Level Designs*, Xcell Journal, Q1-2006, Issue 56, pg. 29-31.

## CONFERENCE PAPERS

14. Boyan Yordanov, Evan Appleton, Rishi Ganguly, Ebru Aydin Gol, Swati Banerjee Carr, Swapnil Bhatia, Traci Haddock, Calin Belta, **Douglas Densmore**, *Experimentally Driven Verification for Synthetic Biological Circuits*, Design, Automation, and Test Europe (DATE) 2012, Dresden Germany, March 2012. **21% acceptance rate**
15. **Douglas Densmore**, Joshua T. Kittleson, Lesia Bilitchenko, Adam Liu, J. Christopher Anderson, *Rule Based Constraints for the Construction of Genetic Devices*, IEEE International Symposium on Circuits and Systems (ISCAS) 2010, Paris France, May 2010.
16. **Douglas Densmore**, J. Christopher Anderson, *Combinational Logic Design in Synthetic Biology*, IEEE International Symposium on Circuits and Systems (ISCAS) 2009, Taipei Taiwan, May 2009.
17. **Douglas Densmore**, Alena Simalatsar, Abhijit Davare, Roberto Passerone, Alberto Sangiovanni-Vincentelli, *UMTS MPSoC Design Evaluation Using a System Level Design Framework*, Design, Automation, and Test Europe (DATE) 2009, Nice France, April 2009. **27% acceptance rate**
18. **Douglas Densmore**, Anne Van Devender, Matthew Johnson, Nade Sritanyaratana, *A Platform-Based Design Environment for Synthetic Biological Systems*, TAPIA '09: Proceedings of the 2009 Conference on Diversity in Computing, ACM, Portland Oregon, April 2009.
19. Alena Simalatsar, **Douglas Densmore**, Roberto Passerone, *A Methodology for Architecture Exploration and Performance Analysis Using System Level Design Languages and Rapid Architecture Profiling*, Third International IEEE Symposium on Industrial Embedded Systems (SIES) 2008, La Grande Motte France, June 2008.
20. Abhijit Davare, **Douglas Densmore**, Trevor Meyerowitz, Alessandro Pinto, Alberto Sangiovanni-Vincentelli, Guang Yang, Haibo Zeng, Qi Zhu, *A Next-Generation Design Framework for Platform-Based Design*, Conference on Using Hardware Design and Verification Languages (DVCon) 2007, San Jose California, February 2007.
21. Shinjiro Kakita, Yosinori Watanabe, **Douglas Densmore**, Abhijit Davare, Alberto Sangiovanni-Vincentelli, *Functional Model Exploration for Multimedia Applications via Algebraic Operators*, Sixth International Conference on Application of Concurrency to System Design (ACSD) 2006, Turku Finland, June 2006.
22. **Douglas Densmore**, Adam Donlin, Alberto Sangiovanni-Vincentelli, *FPGA Architecture Characterization for System Level Performance Analysis*, Design, Automation, and Test Europe (DATE) 2006, Munich Germany, March 2006. **16% acceptance rate.**
23. **Douglas Densmore**, Sanjay Rekhi, Alberto Sangiovanni-Vincentelli, *Microarchitecture Development via Metropolis Successive Platform Refinement*, Design, Automation, and Test Europe (DATE) 2004, Paris France, February 2004. **17% acceptance rate.**

## TECHNICAL REPORTS

24. **Douglas Densmore**, Trevor Meyerowitz, Abhijit Davare, Qi Zhu, Guang Yang, *Metro II Execution Semantics for Mapping*, Technical Report No. UCB/EECS-2008-16, EECS Department, University of California, Berkeley, February 18, 2008.
25. Abhijit Davare, Jake Chong, Qi Zhu, **Douglas Densmore** and Alberto L. Sangiovanni-Vincentelli, *Classification, Customization, and Characterization: Using MILP for Task Allocation and Scheduling*, Technical Report No. UCB/EECS-2006-166, EECS Department, University of California, Berkeley, December 11, 2006.
26. Abhijit Davare, **Douglas Densmore**, Vishal Shah, Haibo Zeng, *A Simple Case Study in Metropolis*, Technical Report No. UCB/ERL M04/37, EECS Department, University of California, Berkeley, September 2004.
27. **Douglas Densmore**, *Metropolis Architecture Refinement Styles and Methodology*, Technical Report No. UCB/ERL M04/36, EECS Department, University of California, Berkeley, September 14, 2004.

28. **Douglas Densmore**, *Formal Refinement Verification in Metropolis*, Technical Report No. UCB/ERL M04/10, EECS Department, University of California, Berkeley, May 22, 2004.

## PATENTS

29. Adam Donlin, **Douglas Densmore**, *Method and Apparatus for Precharacterizing Systems for Use in System Level Design of Integrated Circuits*, Issued Aug 31, 2010, Patent Number 7,788,625.

## MAGAZINE ARTICLES/LETTERS

30. Jean Peccoud, J. Christopher Anderson, Deepak Chandran, **Douglas Densmore**, Michal Galdzicki, Matthew W Lux, Cesar A Rodriguez, Guy-Bart Stan, and Herbert M Sauro, *Essential information for synthetic DNA sequences*, Nature Biotechnology, Volume: 29, Page: 22 Year published: 2011 DOI: doi:10.1038/nbt.1753
31. John Wang, Bing Xia, Terry Johnson, **Douglas Densmore**, J. Christopher Anderson, *Swiss Army Bacteria and Mythical Software*, California Engineer, Volume 88, Issue 2, Winter 2009, pg. 11-17.

## Recognition

### Fellowships

- University of California Chancellor's Postdoctoral Fellowship - Fall 2007 through Summer 2009
- Intel Foundation PhD Fellowship - Fall 2006 and Spring 2007
- Intel Masters Award Program (IMAP) Fellowship - Fall 2001 through Spring 2004
- GEM Fellowship with Intel Corporation sponsorship - Spring 2001

### Awards

- iGEM "Best Software Tool" and gold medal (only software team to receive gold medal) - Fall 2011
- Richard and Minda Reidy Family Career Development Professor
- iGEM "Best Software Tool" and gold medal (only 3 US teams received awards) - Fall 2009
- "Best Poster Overall" - NSF CISE REU Sites PI Meeting 2009
- iGEM "Best Software Tool" and gold medal (top 16 of 84 teams) - Fall 2008
- Eta Kappa Nu (HKN) "Candidate of the Semester" - Fall 2005
- Chancellor's Award for Community Service at UC Berkeley (BGESS E-Board Member)
- ACM/IEEE DAC Young Student Support Program Award - June 2001
- Scholar Recognition Award (full tuition) - University of Michigan; Fall 1996 through Spring 2001
- Martin Luther King Alumni Scholarship - University of Michigan; Fall 1996
- **Eagle Scout Award** - Boy Scouts of America

## Grants

- A Tool-Chain to Accelerate Synthetic Biological Engineering, Raytheon/DARPA, DARPA BAA 10-61, Source: 1982-5, Total Project Period: September 23, 2010 through September 21, 2011, \$61,693 (~\$1,000,000 total).
- Multi-input, Multimodal, Mammalian Information Processing Circuits, MIT/DARPA, DARPA-BAA-11-23, Total Project Period: September 1, 2011 through August 13, 2015, \$292,734 (~\$4,253,348 total).
- Utilizing Synthetic Biology to Create Programmable Micro-Bio-Robots, ONR-BAA-10-026, \$4.5M (3 year base), \$3M (2 year option), \$7.5M (total)
- Agilent Applications and Core Technology University Research (ACT-UR) Funding - Augmenting and Extending the Eugene Domain Specific Language for Synthetic Biology, \$56,520, 9/1/11 to 9/1/12.
- NSF ABI - Collaborative Research: ABI Development: A Modular, Community Based Design Platform for Synthetic Biology (Clotho), \$1,098,166 (BU portion), 2/1/12-1/31/15. **Outstanding designation (top 7% of 229+ submissions).**

- DARPA Living Foundries - Platforms for Massively Multi-Part System Engineering: Application to Siderophores as Anti-corrosion Agents, \$250,211 (BU portion), 4/1/2012 - 9/30/14.

## Teaching

- Boston University, EC 311 - Introduction to Digital Logic Design - Spring 2011 - **4.72/5 instructor rating**
- Boston University, EC 551 - Advanced Digital Design with Verilog and FPGAs - Fall 2011 - **4.52/5 instructor rating**
- Boston University, EC 327 - Introduction to Software Engineering - Spring 2012

## Technical Presentations

### Conferences

1. *“Experimentally Driven Verification for Synthetic Biological Circuits”*  
Design, Automation, and Test Europe (DATE) 2012, March 2012
2. *“Tools for Synthetic Biology”*  
Synthetic Biology 5.0 (SB5.0), June 2011
3. *“Rule Based Constraints for the Construction of Genetic Devices”*  
International Symposium on Circuits and Systems (ISCAS) 2009, May 2010
4. *“Eugene: A Domain Specific Language for Specifying Biological Constructs at Higher Levels of Abstraction”*  
Advances in Synthetic Biology, March 2010
5. *“Combinational Logic Design in Synthetic Biology”*  
International Symposium on Circuits and Systems (ISCAS) 2009, May 2009
6. *“A Platform-Based Design Environment for Synthetic Biological Systems”*  
2009 Richard Tapia Celebration of Diversity in Computing Conference, April 2009
7. *“System Level Synthesis: Functions, Architectures, and Communication”* (Tutorial Session)  
Asia, South Pacific Design Automation Conference (ASPDAC) 2008, January 2008
8. *“Microarchitecture Development via Metropolis Successive Platform Refinement”*  
Design, Automation, and Test Europe (DATE) 2004, February 2004

### Invited Talks

9. *“Circuits, Code, and Cells”*  
Life Technologies, Summer 2011
10. *“EDA to BDA”*  
Boston University, Wellesley, Fall 2010
11. *“Platform-Based Design: From Cruise Control to Cancer Killer”*  
Boston University, BBN Technologies, Georgia Tech, Tufts University, Yale, Notre Dame, Spring 2010
12. *“Clotho and Eugene: Tools and Languages to Create a Platform-Based Design Strategy for Synthetic Biology”*  
Joint BioEnergy Institute, October 2009
13. *“What Do Embedded Electronics and Synthetic Biology Have In Common?”*  
Siemens Technology-to-Business Center (TTB), July 2009
14. *“The Application of Platform-Based Design to Embedded Electronics and Synthetic Biological Systems”*  
Columbia University, University of Washington, University of California (San Diego and LA), Spring 2009
15. *“Computer Aided Design of Synthetic Biological Systems Using Standardized Parts”*  
Center for Hybrid and Embedded Software Systems (CHESS) Seminar, November 2008
16. *“Computer-Aided Design”* (Roundtable Leader)  
Synthetic Biology 4.0, October 2008
17. *“The Platform-Based Design Methodology: Its application to embedded system design and synthetic biology”*  
Columbia University, March 2008

18. *“Programmable Architecture Modeling in Metropolis”*  
Cisco Systems, December 2007
19. *“A Design Flow for the Development, Characterization, and Refinement of System Level Architectural Services”*  
Center for Hybrid and Embedded Software Systems (CHESS) Seminar, May 2007
20. *“Architecture Modeling and Refinement Verification in Metropolis”*  
Center for Hybrid and Embedded Software Systems (CHESS) Seminar, May 2005
21. *“Metropolis: Overview and Architecture Modeling Proposal”*  
Xilinx Research Labs, April 2004

## Workshops

22. *“BioCAD”*  
Synthetic Biology Engineering Research Center (SynBERC) Retreat, Fall 2009
23. *“Clotho Update and Future Directions”*  
Synthetic Biology Engineering Research Center (SynBERC) Retreat and Site Visit, Spring 2009
24. *“Metro II Simulation Analysis Using an UMTS Case Study”*  
Gigascale Systems Research Center (GSRC) Annual Symposium, Fall 2008
25. *“Metro II Status Update: Adaptors and Current Design Activities”*  
Gigascale Systems Research Center (GSRC) Review, Spring 2008
26. *“Proposals for Metro II Execution Semantics for Mapping”*  
Gigascale Systems Research Center (GSRC) Review, Fall 2007
27. *“Design Space Exploration for Motion-JPEG in Metropolis”*  
Gigascale Systems Research Center (GSRC) Demonstration, Fall 2005
28. *“Xilinx Based Architecture Modeling and Refinement”*  
Gigascale Systems Research Center (GSRC) Review, Summer 2005
29. *“Xilinx Architecture Modeling in Metropolis”*  
Gigascale Systems Research Center (GSRC) Quarterly Workshop, December 2004
30. *“Architecture Modeling in Metropolis”*  
Gigascale Systems Research Center (GSRC) Review, June 2004
31. *“Metropolis @ Cypress”*  
Gigascale Systems Research Center (GSRC) Quarterly Workshop, March 2003

## Course Lectures

32. *“Design Automation Approaches in Synthetic Biology”*  
Synthetic Biology Bootcamp (BioE 140L) Guest Lecture, May 2009
33. *“Metropolis Representations”*  
Design of Embedded Systems (EE249) Guest Lecture, October 2008, November 2009
34. *“Architecture Modeling, Characterization, and Refinement in Metropolis and Metro II”*  
Design of Embedded Systems (EE249) Guest Lecture, October 2007
35. *“Programmable Architecture Modeling and Classification”*  
Design of Embedded Systems (EE249) Guest Lecture, October 2006
36. *“Architecture Modeling in Metropolis”*  
Design of Embedded Systems (EE249) Guest Lecture, October 2004
37. *“Reconfigurable Commercial Platforms: Xilinx, PSoC”*  
Design of Embedded Systems (EE249) Guest Lecture, December 2003

## Professional Activities and Service

### Conference/Workshop Organization

- International Workshop on Bio-Design Automation (IWBDA) 2009, 2010, 2011, 2012 - **General Chair, Secretary, Co-Founder, and Steering Committee**
- Special Interest Group for ISMB2012 (“Biological Systems Design”) 2012 - **Organizing Committee**

### Conference/Workshop Attendance

#### Bioengineering

- Advances in Synthetic Biology 2010
- Institute of Biological Engineering (IBE) Annual Conference 2009, 2011
- International Genetically Engineered Machine (iGEM) Competition 2008, 2009, 2010, 2011
- Synthetic Biology 4.0 2008 (CAD session chair)
- Synthetic Biology 5.0 2011 (Featured Speaker)

#### Electrical Engineering and Computer Science

- Asia, South Pacific Design Automation Conference (ASPDAC) 2008
- Design Automation Conference (DAC) 2002, 2003, 2004, 2005, 2007, 2009, 2010, 2011
- International Conference on Computer Aided Design (ICCAD) 2003
- International Symposium on Circuits and Systems (ISCAS) 2009, 2010
- Design, Automation, and Test Europe (DATE) 2004, 2012
- Embedded Systems to Cyber-Physical Systems Workshop (at RTAS) 2008

#### Miscellaneous

- Sci-Foo, Googleplex, Mountain View California
- Intel PhD Forum 2006, Hillsboro Oregon

### Technical Program Committee/Reviewer

#### Technical Program Committee

- 8th International Symposium on Bioinformatics Research and Applications (ISBRA 2012)
- Design Automation Conference (DAC) 2011
- International Genetically Engineered Machine (iGEM) competition judge 2010
- International Conference on Computer Aided Design (ICCAD) 2009, 2010, 2011 (Novel Circuits and Biosystems)
- IEEE International Conference on Emerging Technologies and Factory Automation (ETFFA) 2009

#### Reviewer

- IEEE Design and Test - Editor (Special Issue/Section) - Summer 2011 (Published 2012)
- PLoS One 2011
- BMC Systems Biology 2011
- International Conference on Hardware/Software Codesign and System Synthesis (CODES) 2005, 2006, 2007
- International Conference on Computer Aided Design (ICCAD) 2005, 2009, 2010, 2011
- ACM Transactions on Embedded Computing Systems (TECS) 2004 (1), 2009 (2)
- ACM Transactions on Design Automation of Electronic Systems (TODAES) 2009

## Community Service and Diversity Activities

### Invited Talks/Panels

1. “*Graduate School Experience Top Ten Tips*”  
Berkeley EDGE Conference keynote address, UC Berkeley, October 2009
2. “*Mirror, Mirror on the Wall...*”  
Berkeley EDGE Conference keynote address, UC Berkeley, October 2008
3. “*How to Get a Post-doc Position*”  
Graduate Women Engineers, UC Berkeley, October 2007
4. “*Strengthening Your Link in the Mentorship Chain*”  
Berkeley Edge luncheon series, UC Berkeley, October 2007
5. “*Post Doc: To Be or Not to Be*”  
GEM National Conference, Las Vegas Nevada, October 2007
6. “*Why Grad School*”  
Berkeley EDGE Conference panel, UC Berkeley, Fall 2006

### Workshops/Conferences

- *Richard Tapia Celebration of Diversity in Computing Conference*  
Portland, Oregon, April 2009
- *Coalition to Diversify Computing (CDC) Academic Workshop for Underrepresented Participants*  
University of Texas A&M, December 2007
- *Georgia Tech FOCUS Fellows*  
Atlanta, Georgia, January 2006
- *The Compact for Faculty Diversity, Institute on Teaching and Mentoring*  
Arlington, Virginia, October 2005
- *National Society of Black Engineers (NSBE) Fall Regional Conferences*  
Detroit, Michigan (2002) and Sacramento, California (2004)

### Memberships/Service

- *Black Graduate Engineering and Science Students (BGESS)* - UC Berkeley  
Member (2001-2007), Secretary (Fall 2001, Spring 2002), President (Fall 2002, Spring 2003), and Associate Vice President (Fall 2003, Spring 2004)
- Participant in the *Chancellor’s Senior Advisory Group on Diversity and Inclusion (SAGDI)* - UC Berkeley
- Head organizer for *Cal Day Science Fair* - UC Berkeley, 2002 to 2006
- Member of the *Berkeley EDGE Advisory Committee* - UC Berkeley, 2006 to 2009

### Mentoring/Volunteer Work

- *Empowering Leadership Alliance* mentor - Spring 2009 - Present
- *Summer Mathematics And Science Honors (SMASH) Academy* mentor - UC Berkeley, 2007 and 2008
- *McNair Scholar* mentor - UC Berkeley, Fall 2006
- *Summer Undergraduate Program in Engineering Research at Berkeley (SUPERB)* program mentor - UC Berkeley, Summers 2003, 2008, 2009
- Volunteer worker at “*Señor de Huanca*” (after school program) - Cusco, Perú, Summer 2006

## Computer Skills

**Languages:** C, C++, Perl, Java, SystemC, Verilog, LabView, HTML, MIPS assembly, and some use of Unix shell scripts

**Applications:** Xilinx EDK and ISE, L<sup>A</sup>T<sub>E</sub>X, common Windows word processing, database, spreadsheet, and presentation software

**Operating Systems:** Unix/Linux, MacOS, Windows

## Memberships

**Professional:** IEEE, IEEE Computer Society, ACM, ACM SIGDA, Eta Kappa Nu (HKN), National Society of Black Engineers (NSBE), Institute of Biological Engineering (IBE), Gigascale Systems Research Center (GSRC), Center for Hybrid and Embedded Systems Software (CHESS), Synthetic Biology Engineering Research Center (SynBERC)