

Daniel Grissom

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EDUCATION

University of California, Riverside (UCR) – Riverside, CA
Ph.D. in Computer Science **2009 – 2014**
 Thesis: "Design of Topologies for Interpreting Assays on Digital Microfluidic Biochips"

University of California, Riverside (UCR) – Riverside, CA
M.S. in Computer Science **2009 – 2011**
 Project: "A Real-time Architecture for a Programmable Digital Microfluidic Biochip"

University of Cincinnati (UC) – Cincinnati, OH
B.S. Honors in Computer Engineering **2003 – 2008**
 Areas of Concentration: Architecture, VLSI Design
 Honors: Magna Cum Laude

AWARDS & FELLOWSHIPS

- Dissertation Year Program Fellowship (UCR) **2013 – 2014**
- National Science Foundation Graduate Research Fellowship (NSF-GRFP) **2010 – 2013**
- DAC Young Student Support Program Award **2011**

TEACHING EXPERIENCE

Azusa Pacific University (APU) – Azusa, CA
Department of Computer Science, Assistant Professor
 Independently designed, ran and taught computer science courses:

- Artificial Intelligence (CS 430, Fall 2014)
- Computer Organization (CS 445, Fall 2014)
- Introduction to Programming (CS 220, Fall 2014)

University of California, Riverside (UCR) – Riverside, CA
Teaching Assistant – to Prof. Philip Brisk in "Project in Embedded Systems" **2010**
 Oversaw senior design projects, gave advice to individuals and groups, collaborated with instructor on final grades.

Teaching Assistant – to Prof. Ray Klefstad in "Intro to Comp. Programming." **2009 – 2010**
 Ran a total of four labs with 30 students each, met with students, graded lab assignments, computed final grades.

RELATED PROFESSIONAL & RESEARCH EXPERIENCE

Environmental Systems Research Institute (ESRI) – Redlands, CA
Software Developer, Intern **2013**
 Contributed new features and functionality for ESRI's primary, next-generation Geographic Information Systems (GIS) software.

University of California, Riverside (UCR) – Riverside, CA
Graduate Research Assistant **2010 – Present**
 Created several simulators, designed and executed experiments, wrote and

presented papers, created and presented posters, mentored younger students.

University of Tennessee, Knoxville (UTK) – Knoxville, TN

Researcher

2012

Developed and prototyped a hardware/software solution to control digital microfluidic biochips fabricated by researchers at UTK.

Advanced Micro Devices (AMD) – Austin, TX

Performance Engineer, Co-op

2007

Gathered and analyzed performance data from latest AMD processors and platforms.

Northrop Grumman, Xetron – Cincinnati, OH

Software Engineer, Co-op

2005 – 2006

Assisted in development of multiple internal and external software projects and obtained Top-Secret security clearance.

Wright-Patterson Air Force Base Research Lab – Fairborn, OH

Wright Scholar Research Assistant

2002 – 2004

Wired instrumentation, created AutoCAD drawings, gathered and examined data for turbine engine tests.

REFEREED PUBLICATIONS AND PAPERS

- **“A Low-Cost Field-Programmable Pin-Constrained Digital Microfluidic Biochip”**
D. Grissom, J. McDaniel and P. Brisk.
Paper accepted for publication in the IEEE Transactions on Computer-Aided Design (TCAD) of Integrated Circuits and Systems
 - **“Fast Online Synthesis of Digital Microfluidic Biochips”**
D. Grissom and P. Brisk.
IEEE Transactions on Computer-Aided Design (TCAD) of Integrated Circuits and Systems, Vol. 33, No. 3, March, 2014, pp. 356-369.
 - **“Exploring Speed and Energy Tradeoffs in Droplet Transport for Cyber-Physical Digital Microfluidic Biochips”**
J. Fiske, D. Grissom and P. Brisk.
Paper presented at Asia & South Pacific Design Automation Conf. (ASP-DAC), Singapore, 2014
 - **“Interpreting Assays with Control Flow on Digital Microfluidic Biochips”**
D. Grissom, C. Curtis and P. Brisk.
ACM Journal on Emerging Technologies (JETC) in Computing Systems, Vol. 10, No. 3, April, 2014, Article No. 24.
 - **“A Field-Programmable Pin-Constrained Digital Microfluidic Biochip”**
D. Grissom and P. Brisk.
Paper presented at Design Automation Conference (DAC), Austin, TX, 2013.
 - **“A Digital Microfluidic Biochip Synthesis Framework”**
D. Grissom, K. O'Neal, B. Preciado, H. Patel, R. Doherty, N. Liao and P. Brisk.
Paper presented at Int. Conf. Very large Scale Integration (VLSI-SoC), Santa Cruz, CA, 2012.
 - **“Force-directed List Scheduling for Digital Microfluidic Biochips”**
K. O'Neal, D. Grissom and P. Brisk.
Paper presented at Int. Conf. Very large Scale Integration (VLSI-SoC), Santa Cruz, CA, 2012.
 - **“Fast Online Synthesis of Generally Programmable Digital Microfluidic Biochips”**
D. Grissom and P. Brisk.
Paper/poster presented at ESWEEK (CODES+ISSS), Tampere, Finland, 2012.
 - **“Path Scheduling on Digital Microfluidic Biochips”**
D. Grissom and P. Brisk.
Paper presented at Design Automation Conference (DAC), San Francisco, CA, 2012.
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- **"A High-Performance Online Assay Interpreter for Digital Microfluidic Biochips"**
D. Grissom and P. Brisk.
Poster presented at the Great Lakes Symposium on VLSI (GLS-VLSI), Salt Lake City, UT, 2012.
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NON- REFEREED PRESENTATIONS & INVITED TALKS

- **"Software Control of Cyber-physical Electrowetting Devices"**
Invited talk presented at the 9th International Meeting on Electrowetting and Related Micro/Electrofluidic Science and Technology, Cincinnati, OH, 2014.
 - **"Performing Biochemical Reactions on Digital Microfluidic Biochips"**
Invited talk presented to an Azusa Pacific University undergraduate computer science class, Azusa, CA, 2013.
 - **"Fast Online Synthesis of Digital Microfluidic Biochips"**
Invited talk presented at University of California, Riverside, Computer Science Graduate Colloquium, Riverside, CA, 2013.
 - **"Programmable, Integrated Microfluidic Technology: Automated and Miniaturizing Chemistry and Biochemistry"**
Tutorial presented at the SIGDA-DAC Design Automation Summer School, Austin, TX, 2013.
 - **"System Support for Generally Programmable Digital Microfluidic Biochip Devices"**
Poster presented at the NSF CPS Principal Investigator Meeting, National Harbor, MD, 2011.
 - **"Programmable Digital Microfluidic Biochips"**
Poster presented at the Inland Empire Tech Week Poster Session, San Bernardino, CA, 2010.
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PATENTS

- **"Deadlock-Free Droplet Routing on a Digital Microfluidic Biochip"**
U.S. Provisional Patent Application Serial No. 61/607,931, Filed March 7, 2012.
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RELATED PROFESSIONAL ACTIVITIES

- Computer Science Graduate Student Association (CompGSA) President, *UCR*
 - Tau Beta Pi Member, *UC*
 - Eta Kappa Nu Member, *UC*
 - Engineers Without Borders Webmaster, *UC*
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STUDENTS MENTORED & SUPPORTED

- Independent Projects in Digital Microfluidics
 - (+) Chris Curtis, UCR Undergraduate
 - (#) Johnathan Fiske, UCR Undergraduate
 - Calvin Phung, UCR Undergraduate
 - Neri Lemus, UCR Undergraduate
 - Nathan Hapeman, UCR Undergraduate
 - Johnnie Kwok, UCR Undergraduate
 - Yesenia Vital, UCR Undergraduate
 - Madhuri Gupta, UC (Cincinnati) Graduate
 - Ben Sanders, UCR Graduate
 - Mark Louton, UCR Graduate (Master's Project)
 - Senior Design Project in Digital Microfluidics
 - (#+) Kenneth O'Neal, UCR Undergraduate
 - (+) Benjamin Preciado, UCR Undergraduate
 - (+) Hiral Patel, UCR Undergraduate
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- (+) Robert Doherty, UCR Undergraduate
 - (+) Nick Liao, The Bishop's School High School Student
 - Michael Warren, UCR Undergraduate
 - Douglas MacDuff, UCR Undergraduate
 - Vien Ngo, UCR Undergraduate

 - Project in Digital Microfluidics for Graduate Course (Synthesis of Digital Systems, UCR CS220)
 - Skyler Windh, UCR Graduate
 - Navin Kumar, UCR Graduate
 - Umesh Moghariya, UCR Graduate
 - Pavan Panjam, UCR Graduate
 - Ioannis Gasparis, UCR Graduate
 - Eddy Lixandru, UCR Graduate
 - Michael Albertson, UCR Graduate
 - Francesca Perkins, UCR Graduate

+ - Denotes that students have published with me as primary (#) or secondary author (+).