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Marc D. Riedel

Education	• Postdoctoral Fellow, *Electrical Engineering* [2004 – 2005] California Institute of Technology • Ph.D., M.S., *Electrical Engineering* [2004] California Institute of Technology Advisor: Prof. Jehoshua (Shuki) Bruck Dissertation Title: "Cyclic Combinational Circuits" • Charles H. Wilts Prize for the **Best Ph.D. Dissertation** [2004] *Electrical Engineering* California Institute of Technology
Academic Appointments	• Assistant Professor [2006 –] *Electrical and Computer Engineering* University of Minnesota • Faculty [2006 –] *Digital Technology Center* University of Minnesota • Graduate Faculty [2008 –] *Biomedical Informatics and Computational Biology Program* University of Minnesota • Research Assistant [2001 – 2004], Lecturer [2004 – 2005] *Electrical Engineering / Computation and Neural Systems* California Institute of Technology
Research Funding [*sponsored*]	• National Science Foundation, Biocomputing Program Title: "*Digital Signal Processing with Biomolecular Reactions*" Investigators: Keshab Parhi (PI) and Marc Riedel (co-PI) Amount: $400,000 Duration: 2011 – 2014 • **National Science Foundation, CAREER Award** Title: "*Computing with Things Small Wet and Random – Design Automation for Digital Computation with Nanoscale Technologies and Biological Processes*" Investigator: Marc Riedel (PI) Amount: $500,000 Duration: 2009 – 2014 • National Science Foundation, EAGER Grant Title: "*Synthesizing Signal Processing Functions with Biochemical Reactions*" Investigators: Keshab Parhi (PI) and Marc Riedel (co-PI) Amount: $200,000 Duration: 2009 – 2011

	• SRC Focus Center Research Program (FCRP) on Functional Engineered Nano-Architectonics (FENA) Title: "*The Concurrent Logical and Physical Design of Nanoscale Digital Circuits*" Investigator: Marc Riedel (PI) Amount: $325,000 Duration: 2007 – 2009
Research Funding [*non-sponsored*]	• UMN Initiatives in Digital Technology (DTI), Seed Grant Title: "*Computational Method for Forward Biological Engineering*" Investigators: Yiannis Kaznessi (PI), Claudia Schmidt-Dannert (Co-PI), and Marc Riedel (co-PI) Amount: $97,800 Duration: 2011 – 2012 • UMN Biomedical Informatics and Computational Biology (BICB), Student Traineeships Title: "*The Synthesis of Stochastic Biochemical Systems*" Investigator: Marc Riedel (PI) Amount: **$**78,000 Duration: 2007 – 2009 • UMN Electrical and Computer Engineering, Startup Funding Investigator: Marc Riedel (PI) Amount: **$**327,264 Duration: 2006 – 2011
Peer-Reviewed Journal Papers and **Book Chapters** [submitted]	1. "*Nonlinear Ordinary Differential Equation Models of Biological Networks Using High Throughput Data*" Vishwesh V. Kulkarni, Kalyansundaram Subramanian, Reza Arastoo, Anupama Bhat, Mayuresh V. Kothare, and Marc Riedel Systems and Synthetic Biology, 13 pages, 2011 2. *"Digital Computation with Molecular Reactions"* Hua Jiang, Marc Riedel, and Keshab Parhi Proceedings of the National Academy of Sciences, 8 pages, 2011 3. *"Synthesizing Cubes to Satisfy Intersection Patterns"* Weikang Qian, Marc Riedel, and Ivo Rosenberg Journal of Discrete Applied Mathematics, 43 pages, 2011 4. "*The Synthesis of Cyclic Functional Dependencies*" John Backes and Marc Riedel ACM Transactions on Design Automation of Electronic Systems, 24 pages, 2011 5. *"Synthesizing Logical Computation on Stochastic Bit Streams*" Weikang Qian and Marc Riedel Proceedings of the IEEE, 8 pages, 2011 6. "*Logic Synthesis for Switching Lattices*" Mustafa Altun and Marc Riedel. IEEE Transactions on Computers, 14 pages, 2011 7. "*Synthesizing Logical Computation through Percolation in Nanoscale Lattices*" Mustafa Altun and Marc Riedel ACM Journal of Emerging Technologies, 17 pages, 2011 8. "*The Analysis and Mapping of Cyclic Circuits with Boolean Satisfiability*" John Backes and Marc Riedel IEEE Trans. on Computer-Aided Design of Integrated Circuits & Systems, 5 pages, 2010

Peer-Reviewed Journal Papers and **Book Chapters** [accepted/appeared]

1. "*Characterizing the Memory of the GAL Regulatory Network in Saccharomyces cerevisiae"*
   Vishwesh Kulkarni, Venkatesh Kareenhalli, Ganesh Viswananthan, and Marc Riedel
   Systems and Synthetic Biology, 13 pages, to appear, 2011
2. "*Cyclic Boolean Circuits*"
   Marc Riedel and Jehoshua Bruck
   Journal of Discrete Applied Mathematics, 42 pages, to appear, 2011
3. "*Transforming Probabilities with Combinational Logic*"
   Weikang Qian, Marc Riedel, Hongchao Zhou, and Jehoshua Bruck
   IEEE Transactions on Computer-Aided Design of Integrated
   Circuits and Systems, 14 pages, to appear 2011
4. "*Rate-Independent Constructs for Chemical Computation*"
   Philip Senum and Marc Riedel.
   PLoS ONE, Vol. 6, Issue 6, pp. 1–12, 2011
5. "*Uniform Approximation and Bernstein Polynomials with Coefficients in the Unit Interval*"
   Weikang Qian, Marc Riedel, and Ivo Rosenberg
   European Journal of Combinatorics, vol. 32, no. 3, pp. 448–463, 2011
6. "*An Architecture for Fault-Tolerant Computation with Stochastic Logic*"
   Weikang Qian, Xin Li, Marc Riedel, Kia Bazargan, and David Lilja
   IEEE Transactions on Computers, vol. 60, no. 1, pp. 93–105, 2011
7. "*Synthesizing Combinational Logic to Generate Probabilities: Theories and Algorithms*"
   Weikang Qian, Marc Riedel, Kia Bazargan, and David Lilja
   "Advanced Techniques in Logic Synthesis, Optimizations and Applications"
   Sunil Khatri and Kanupriya Gulati, Editors, Springer Publishing, pp. 1–28, 2010
8. "*The Synthesis of Stochastic Logic for Nanoscale Digital Circuits*"
   Weikang Qian, John Backes, and Marc Riedel
   International Journal of Molecular and Nanoscale Computation
   Vol. 1, Issue 4,. pp. 39–57, 2010
9. **"***Computing in the RAIN: A Reliable Array of Independent Nodes*"
   Vincent Bohossian, Charles Fan, Paul LeMahieu, Marc Riedel, Lihao Xu, and Jehoshua Bruck
   IEEE Trans. on Parallel and Distributed Computing, Vol. 12, No. 2, pp. 99–114, 2001
10. "*Tolerating Faults in Counting Networks*"
    Marc Riedel and Jehoshua Bruck
    Dependable Network Computing, Dimiter R. Avresky, Editor
    Kluwer Academic Publishing, , pp. 267–278, 2000

Peer-Reviewed Conference Papers [submitted]

1. "*Stability and Synchrony of Limit Cycles in Networks of Luré System Based Oscillators*"
   Vishwesh V. Kulkarni, Guy-Bart Stan, Rodolph Sepulchre, and Marc Riedel
   Allerton Conference on Communication, Control, and Computing, 8 pages, 2012
2. "*Resolution Proofs as a Data Structure for Logic Synthesis*"
   John Backes and Marc Riedel
   ACM/IEEE Asia and South Pacific Design Automation Conference, 8 pages, 2012
3. "*The Synthesis of the Sequential Computation on Stochastic Bit Streams*"
   Peng Li, Weikang Qian, Marc Riedel, Kia Bazargan, and David Lilja
   ACM//IEEE Asia and South Pacific Design Automation Conference, 8 pages, 2012

Peer-Reviewed Conference Papers [accepted/appeared]

1. "*Digital Logic with Molecular Reactions*"
   Hua Jiang, Marc Riedel, and Keshab Parhi
   Asilomar Conference on Signals, Systems and Computers, 8 pages, 2011
2. "*Synchronous Sequential Computation with Molecular Reactions*"
   Hua Jiang, Marc Riedel, and Keshab Parhi
   ACM/IEEE Design Automation Conference, 6 pages, 2011
3. "*Rate-Independent Constructs for Chemical Computation*"
   Philip Senum and Marc Riedel.
   Pacific Symposium on Biocomputing, 11 pages, 2011
4. "*Binary Counting with Chemical Reactions*"
   Aleksandra Kharam, Hua Jiang, Marc Riedel, and Keshab Parhi
   Pacific Symposium on Biocomputing, 12 pages, 2011
5. "*Reduction of Interpolants for Logic Synthesis*"
   John Backes and Marc Riedel
   IEEE/ACM International Conference on Computer-Aided Design, 8 pages, 2010
6. "*Digital Signal Processing with Biomolecular Reactions*"
   Hua Jiang, Aleksandra Kharam, Marc Riedel, and Keshab Parhi
   IEEE/ACM International Conference on Computer-Aided Design, 8 pages, 2010
7. "*Latticed-Based Computation of Boolean Functions*"
   Mustafa Altun and Marc Riedel
   ACM/IEEE Design Automation Conference, 6 pages, 2010
8. "*Writing and Compiling Code for Biochemistry*"
   Adam Shea, Brian Fett, Marc Riedel, and Keshab Parhi
   Pacific Symposium on Biocomputing, 9 pages, 2010
9. "*Synthesizing Sequential Register-Based Computation with Biochemistry*"
   Adam Shea, Brian Fett, Marc Riedel, and Keshab Parhi
   IEEE/ACM International Conference on Computer-Aided Design, 8 pages, 2009
10. "*Synthesizing Combinational Logic to Compute Probabilities*"
    Weikang Qian, Marc Riedel, Kia Bazargan, and David Lilja
    IEEE/ACM International Conference on Computer-Aided Design, 8 pages, 2009
    (Nominated for **IEEE/ACM William J. McCalla Best Paper Award**)
11. "*Nanoscale Computation Through Percolation*"
    Mustafa Altun, Marc Riedel, and Claudia Neuhauser
    ACM/IEEE Design Automation Conference, WACI Track, 2 pages, 2009
12. "*A Reconfigurable Stochastic Architecture for Reliable Computing*"
    Xin Li, Weikang Qian, Marc Riedel, Kia Bazargan, and David Lilja
    IEEE Great Lakes Symposium on VLSI Design, 6 pages, 2009
13. "*Estimation and Optimization of Reliability of Noisy Digital Circuits*"
    Satish Sivaswamy, Kia Bazargan, and Marc Riedel
    IEEE International Symposium on Quality Electronic Design, 6 pages, 2009
14. "*Stochastic Transient Analysis of Biochemical Systems*"
    Bin Cheng and Marc Riedel
    Pacific Symposium on Biocomputing, 11 pages, 2009
15. "*Module Locking in Biochemical Synthesis*"
    Brian Fett and Marc Riedel
    IEEE/ACM International Conference on Computer-Aided Design, 7 pages, 2008

16. "*The Analysis of Cyclic Circuits with Boolean Satisfiability*"
John Backes and Marc Riedel
IEEE/ACM International Conference on Computer-Aided Design, 7 pages, 2008

17. "*The Synthesis of Robust Polynomial Arithmetic with Stochastic Logic*"
Weikang Qian and Marc Riedel
ACM/IEEE Design Automation Conference, 6 pages, 2008
(Nominated as a **Research Highlight,** Communications of the ACM**)**

18. "*Synthesizing Stochasticity in Biochemical Systems*"
Brian Fett, Jehoshua Bruck, and Marc Riedel
ACM/IEEE Design Automation Conference, 6 pages, 2007

19. "*The Synthesis of Cyclic Combinational Circuits*"
Marc Riedel and Jehoshua Bruck
ACM/IEEE Design Automation Conference, 6 pages, 2003
(Received the **DAC Best Paper Award**)

Peer-Reviewed Workshop Papers
[accepted/appeared]

1. "*Resolution Proofs as a Data Structure for Logic Synthesis*"
John Backes and Marc Riedel.
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2011

2. "*Synthesizing Cubes to Satisfy a Given Intersection Pattern*"
Weikang Qian and Marc Riedel.
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2010

3. "*Two-Level Logic Synthesis for Probabilistic Computation*"
Weikang Qian and Marc Riedel.
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2010

4. "*Reduction of Interpolants for Logic Synthesis*"
John Backes and Marc Riedel
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2010

5. "*Digital Signal Processing with Biomolecular Reactions*"
Hua Jiang, Aleksandra Kharam, Marc Riedel, and Keshab Parhi.
IEEE Workshop on Signal Processing Systems, 6 pages, 2010

6. "*The Synthesis of Cyclic Dependencies with Craig Interpolation*"
John Backes and Marc Riedel.
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2009

7. "*Synthesizing Sequential Register-Based Computation with Biochemistry*"
Adam Shea, Brian Fett, Marc Riedel, and Keshab Parhi
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2009

8. "*Synthesizing Combinational Logic to Compute Probabilities*"
Weikang Qian, Marc Riedel, Kia Bazargan, and David Lilja
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2009

9. "*The Synthesis of Stochastic Logic to Perform Multivariate Polynomial Arithmetic*"
Weikang Qian and Marc Riedel.
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2008

10. "*The Synthesis of Stochastic Logic for Nanoscale Digital Circuits*"
Weikang Qian, John Backes, and Marc Riedel
IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2007

	11. "*Application of LUT Cascades to Numerical Function Generators*" Tsutomu Sasao, Jon Butler, and Marc Riedel Workshop on Synthesis & System Integration of Mixed Information, 7 pages, 2004 12. "*Timing Analysis of Cyclic Combinational Circuits*" Marc Riedel and Jehoshua Bruck IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2004 13. "*Cyclic Combinational Circuits: Analysis for Synthesis*" Marc Riedel and Jehoshua Bruck IEEE/ACM International Workshop on Logic and Synthesis, 8 pages, 2003
Patents	1. "*Method and Means for the Synthesis of Cyclic Combinational Circuits*" Marc Riedel and Jehoshua Bruck. U.S. Patent 7,249,34 [2007] 2. "*A Reliable Array of Distributed Computing Nodes*" Vincent Bohossian, Chenggong Fan, Paul LeMahieu, Marc Riedel, Lihao Xu, Jehoshua Bruck U.S. Patent 6,128,277 [2000]
Published Abstracts	1. *"Computing [Digitally, Robustly] with [Noisy, Asynchronous] Chemical Reactions*" Marc Riedel (**invited**) International Workshop on Stochasticity, Banff, Alberta, 2011 2. *"Synthesizing Logical Computation on Stochastic Bit Streams*" Marc Riedel (**invited**) CMOS Emerging Technologies Workshop, Whistler, BC, 2011 3. *"Asynchronous Sequential Computation with Molecular Reactions*" Hua Jiang, Marc Riedel, and Keshab Parhi International Workshop on Bio-Design Automation, San Diego, CA, 2011 4. *"Biological Network Reconstruction Using Literature Curated and High Throughput Data"* Vishwesh Kulkarni, Kalyanasundaram Subramanian, Reza Arastoo, Mayuresh Kothare, and Marc Riedel International Workshop on Bio-Design Automation, San Diego, CA, 2011 5. *"Rate-Independent Constructs for DNA Computing*" Philip Senum and Marc Riedel. Annual Institute of Biological Engineering Conference, Atlanta, CA, 2011 6. "*Lattice-Based Computation with Percolation*" Mustafa Altun and Marc Riedel (**invited**). IEEE/ACM International Symposium on Nanoscale Architectures, Anaheim, CA, 2010 7. *"Signal Processing Functions with Biomolecular Reactions*" Hua Jiang, Marc Riedel, and Keshab Parhi International Workshop on Bio-Design Automation, San Diego, CA, 2010 8. "*Engineering Biology: Fundamentals and Applications*" Joint DAC/IWBDA Special Session Summary Marc Riedel, Soha Hassoun, and Ron Weiss (**invited**) ACM/IEEE Design Automation Conference, 2010 9. "*Digital Signal Processing with Biochemistry*" Marc Riedel (**invited**) Symposium on the Foundations of Nanoscience, Self-Assembled Architectures and Devices, Salt Lake City, UT, 2010

	10. "*Iterative Computation with Biomolecular Reactions*" Hua Jiang, Marc Riedel, and Keshab Parhi Annual Institute of Biological Engineering Conference, Boston, CA, 2010 11. "*Stochastic Logic and Stochastic Biological Processes*" Marc Riedel (**invited**) Information Theory and Applications Workshop, San Diego, CA, 2010 12. "*Computing with Things Small, Wet, and Random*" Marc Riedel (**invited**) IEEE CANDE Workshop, Monterey, CA. 2009 13. *"Stochastic Chemical Reaction Networks*" Marc Riedel (**invited**) International Workshop on Stochasticity, Banff, Alberta, 2009 14. "*Synthesizing Sequential Register-Based Computation with Biochemistry*" Adam Shea, Brian Fett, Marc Riedel, and Keshab Parhi. International Workshop on Bio-Design Automation, San Francisco, CA, 2009 15. "*Synthesizing Circuit Constructs with Chemical Reaction Networks*" Marc Riedel (**invited**) Emergence in Chemical Systems Conference, Anchorage, AK, 2009 16. "*Rate-Independent Biochemical Synthesis*" Adam Shea, Brian Fett and Marc Riedel Annual Institute of Biological Engineering Conference, Santa Clara, CA, 2009 17. "*Modular Stochastic Biochemistry*" Brian Fett and Marc Riedel Synthetic Biology 4.0, Hong Kong. 2008 18. "*Biochemical Pathways from Generic Designs"* Brian Fett and Marc Riedel. Synthesis of Cells Meeting, Kobe, Japan*,* 2008 19. "*The Computer-Aided Synthesis of Stochastic Biochemistry*" Brian Fett and Marc Riedel Advances in Synthetic Biology Conference, Cambridge, UK, 2008 20. "*Synthesizing Stochasticity*" Brian Fett and Marc Riedel. Synthetic Biology 3.0, Zürich, Switzerland, 2007
Invited Talks, Colloquia, and **Panels** without published abstracts	1. "*Random and Loopy Circuits: Complexity in Electronic and Biological Circuit Design*" Dept. of Defense Research and Engineering / MIT Lincoln Labs, Complex Systems Study, Squam Lake, NH, July 27, 2010 Host: Robert Bond 2. Panelist: "*CAD for Nanoelectronic Circuits and Architectures - Are we there yet?*" IEEE/ACM International Symposium on Nanoscale Architectures, Anaheim, CA, June 17, 2010 3. "*Robust Stochastic Computation with Biomolecular Reactions*" NSF Workshop on Shared Organizing Principles in Biology, Arlington, VA, May 25, 2010 Host: Prof. Melanie Mitchel 4. "*Computing with Things Small, Wet and Random*" Biological and Medical Physics Seminar Series, University of Minnesota, March 30, 2010 Host: Prof. Vincent Noireaux

5. "*Computing with Things Small, Wet and Random*"
   Dept. of Computer Science, Tufts University, March 1, 2010
   Host: Prof. Soha Hassoun

6. Tutorial*: "Programming Constructs for Chemical Reaction Networks*"
   Pacific Symposium on Biocomputing, Kona, Hawaii, Jan 7, 2010
   Host: Dr. Gil Alterovitz

7. "*Computing with Things Small, Wet and Random*"
   Dept. of Electrical and Computer Engineering, University of Wisconsin, Feb. 27, 2009
   Host: Prof. Azadeh Davoodi

8. "*Computing with Things Small, Wet and Random*"
   Dept. of Electrical and Computer Engineering, Rice University, Feb. 17, 2009
   Host: Prof. Lin Zhong

9. "*Computing with Things Small, Wet and Random*"
   Dept. of Electrical and Computer Engineering, Texas A&M University, Feb. 17, 2009
   Host: Prof. Anxiao (Andrew) Jiang

10. "*Synthesizing Nearly Rate Independent Biochemical Computation*"
    NSF Expeditions in Computing,
    Molecular Programming Workshop, Oxnard, CA, Jan. 10, 2009
    Host: Prof. Erik Winfree

11. "*Computing with Things Small, Wet and Random*"
    Dept. of Electrical and Computer Engineering, UC Davis, Sep. 29, 2008
    Host: Prof. Rick Kiehl

12. "*Computing with Things Small, Wet and Random*"
    Dept. of Electrical Engineering, Caltech*.* Aug. 7, 2008
    Host: Prof. Jehoshua Bruck

13. "*Synthesizing Stochastic Logic*"
    SRC Center on Functional Engineered Nano-Architectonics (FENA)
    Annual Meeting, La Jolla, CA*,* June 13, 2008
    Host: Prof. Kang Wang

14. "*Synthesizing Stochastic Biochemical Reactions*"
    Tech-Tuneup, University of Minnesota*,* May 26, 2008
    Host: Prof. Ahmed Tewfik

15. "*Synthesizing Stochasticity in Ciruits and in Biology*"
    DARPA MTO LIBRA Workshop*,* Nov. 29, 2007
    Host: Dr. John Damoulakis

16. "*Circuit Engineers Doing Biology –*
    A Discourse on the Changing Landscape of Scientific Research"
    Café Scientifique Public Seminar Series*,* Bell Museum of Natural History,
    Bryant-Lake Bowl, Minneapolis MN, Nov. 20, 2007
    Host: Peggy Korsmo-Kennon

17. "*High-Performance Computing for the Analysis and Synthesis of Biochemistry*"
    Company Seminar, IBM Rochester, MN, Oct. 8, 2007
    Host: Tim Mullins

18. *Guest Lecturer*
    Information and Logic, IST 4,
    Dept. of Electrical Engineering, Caltech*,* May 25, 2007
    Host: Prof. Jehoshua Bruck

	19. "*Analysis and Synthesis of Biochemical Reactions"* Cadence Research Labs, Berkeley, CA, May 24, 2007 Host: Dr. Andreas Kuelmann 20. "*Analysis and Synthesis of Stochastic Biochemical Reactions*" Tech-Tuneup, University of Minnesota, May 23, 2007 Host: Prof. Kia Bazargan 21. "*Analysis and Synthesis of Stochastic Logic for Nanoscale Computation"* SRC Center on Functional Engineered Nano-Architectonics (FENA) e-Workshop, UCLA, April 19, 2007 Host: Prof. Kang Wang 22. "*Synthesizing Stochasticity in Biochemical Reaction Networks*" Mathematical Biology Seminar, University of Minnesota, March 21, 2007 Host: Hans Othmer 23. "*Exact Stochastic Simulation with Event Leaping*" Mathematical Biology Seminar, University of Minnesota, Nov. 2, 2006 Host: Hans Othmer. 24. "*Cycles – The Good and the Bad in Logic Synthesis and Computational Biology*" Medtronic Technology Quarterly Seminar Medtronic, Fridely, MN, Oct. 5, 2006 Host: Sara Audet 25. "*Cycles – The Good and the Bad in Logic Synthesis and Computational Biology*" Dept. of Electrical Engineering, UC Santa Barbara, May 17, 2006 Host: Mustafa Kamash 26. "*Cyclic Combinational Circuits and Other Novel Constructs* " ECE & CS Department Job Talks, Spring 2005 - University of Minnesota - University of Utah - Case Western Reserve University - University of Connecticut - University of Rochester - University of British Columbia - Washington State University - Arizona State University - University of Waterloo - Purdue University - University of Montreal's École Polytechnique (**11 interviews**, **11 offers**)
Teaching [Courses / Summary of Evaluations]	• EE5393 "*Circuits, Computation and Biology*" (New graduate-level course that I developed for EE, CS and Biology students.) Spring 2011 (**84 students**): a. "Would you recommend this instructor to other students?" Yes, **97%** b. "Would you recommend this course to other students?" Yes, **89%** Fall 2008 (10 students): a. "Would you recommend this instructor to other students?" Yes, **100%** b. "Would you recommend this course to other students?" Yes, **100%**

	Spring 2008 (15 students): a. "Would you recommend this instructor to other students?" Yes, **100%** b. "Would you recommend this course to other students?" Yes, **100%** • EE1301 "*Introduction to Computing Systems*" (Required freshman-level course for EE students.) Fall 2010 (65 students): a. "Would you recommend this instructor to other students?" Yes, **91%** b. "Would you recommend this course to other students?" Yes, **88%** Spring 2010 (54 students): a. "Would you recommend this instructor to other students? " Yes, **86%** b. "Would you recommend this course to other students?" Yes, **94%** Fall 2009 (60 students): a. "Would you recommend this instructor to other students?" Yes, **100%** b. "Would you recommend this course to other students?" Yes, **96%** • EE2301 "*Introduction to Digital System Design*" (Required sophomore-level course for EE students.) Spring 2009 (35 students): a. "Would you recommend this instructor to other students?" Yes, **96%** b. "Would you recommend this course to other students?" Yes, **100%** Spring 2008 (73 students): a. "Would you recommend this instructor to other students?" Yes, **91%** b. "Would you recommend this course to other students?" Yes, **96%** • Also taught EE5950 "*Special Topics in EE*'' in 2006; EE2301 Discussions in 2006, 2007, 2008, 2009, 2010 and 2011; IT 1311 "*Freshman Design*" in 2006; and EE 4951 "*Senior Design*" in 2008, 2010 and 2011.
Advising	• *Postdoctoral Fellows*: Vishwesh Kulkarni [2011–] • *Ph.D. Students*: Mustafa Altun [2009–], John Backes [2009–], Hua Jiang [2009–] and Weikang Qian [2006–2011] • *M.S. Students*: Brian Fett [2006–2010] and Bin Chen [2008–2009] • *Senior Honors Students*: John Kablan [2008–2009], John Backes [2008–2009], Phil Greenberg [2010–2011], and Caitlin Race [2010–2011] • Mentored students in *Undergraduate Research Opportunities Program* (UROP): Adam Shea [2008], John Backes [2008], Kathleen Thurmes [2009], Phil Greenberg [2009], Dan Hudrlik [2009], Alexandra Kharam [2010], Joshua Krist [2010], Phillip Senum [2010], Jing Xiong [2011] and Nick Gunderson [2011]
Student Committees	• *Ph.D. Final Committee*: Sanjay Kumar (EE), Pongstorn Maidee (EE), Na Hyoung Kim (EE), Satish Sivaswamy (EE), Weikang Qian (EE), Shuo Guo (EE), Robert Knuesel (EE), Qunzeng Liu (EE), and Andrew Ness (EE)

	• *Ph.D. Preliminary Committee*: Pongstorn Maidee (EE), Satish Sivaswamy (EE), Sanjay Kumar (EE), En Yuan (EE), Jonghyeon Shin (Phyiscs), Chenjie Gu (EE), Qunzeng Liu (EE), Robert Knuesel (EE) Shuo Guo (EE), Weikang Qian (EE), Jing Wang (EE), Bennett Swiniarski (CEMS) Mustafa Altun (EE), Jianxin Fang (EE), Baktash Boghrati (EE), and Sakeet Gupta (EE) • *M.S. Committee*: David Boutcher (EE), Amit Bose (CS), Brian Fett (EE), Wuyang Dai (EE), Bin Chen (EE), Andrew Ness (EE), and Bennett Swiniarsk (CEMS)
Professional Service	• International Workshop on Bio-Design Automation (IWBDA): **General Chair** [2010], and **Program Chair** [2009], **Steering Committee Chair** [2009 –] (I started this workshop in 2009.) - Attendance in 2011: **120 people** - Attendance in 2010: **85 people** - Attendance in 2009: **100 people** • IEEE/ACM International Workshop on Logic and Synthesis: **Program Chair** [2009], **General Chair** [2008], Publications Chair [2007], Panel Chair [2006], Technical Program Committee Member [2005–] • IEEE Great Lakes Symposium on VLSI (GLSVLSI): Technical Program Committee Member [2009–2010] • IEEE/ACM International Conference on Computer-Aided Design (ICCAD): Technical Program Committee Member [2008] • ACM Special Interest Group on Design Automation: Co-chair of Technical Committee on Logic/RTL Design [2006–2009]; Associate Editor of SIGDA Newsletter [2006–]; Vice-Chair of CADathlon Programming Competition: [2006–2007] • Refereed papers for: **Proceedings of the National Academy of Sciences**, IEEE/ACM Design Automation Conference, IEEE Transactions on Computers, IEEE Transactions on Computer-Aided Design of Circuits and Systems, IEEE Transactions on Nanotechnology, ACM Journal on Emerging Technologies, Bioinformatics, and Journal of Chemical Physics