

David W. Parent
Professor
Department of Electrical Engineering
San José State University

Professional Preparation:

University of Connecticut, Electrical Engineering, B.S.	1992
University of Connecticut, Electrical Engineering, M.S.	1996
University of Connecticut, Electrical Engineering, Ph.D.	1999

Appointments:

Full Professor, , Electrical Engineering, San Jose State University, 2011-present
Associate Professor, Electrical Engineering, San Jose State University, 2005-2011
Assistant Professor, Electrical Engineering, San Jose State University, 1999-2005
Company Commander: Military (CT Army National Guard) 1994-1996

Publications:

1. J. Rhee, C. Oyamoto, D. Parent, L. Speer, A. Basu, Professor, and L. Gerston "A Case Study of a Co-instructed Multidisciplinary Senior Capstone Project in Sustainability" , accepted for publication in Advances in Engineering Education (2013)
2. J. Rhee, D. W. Parent, A. Basu, "The influence of personality and ability on undergraduate teamwork and team performance", Springerplus, Vol. 2, No. 1p 16 (2013).
3. J. Rhee, D. W. Parent, C. Oyamoto, "Influence of Personality on a Senior Project Combining Innovation and Entrepreneurship," International Journal of Engineering Education, Vol. 28, No. 2. (2012)
4. E. J. Basham, D. W. Parent, "Design Optimization of Transistors Used for Neural Recording", Journal of Active and Passive Components, (2012)
5. D. W. Parent, "Improvements to an Electrical Engineering Skill Audit Exam to Improve Student Mastery of Core EE Concepts", IEEE Transactions on Education, Vol. 99, pp. 184-187, (2010).
6. D. W. Parent, L. Del Rio-Parent, "Introducing TCAD Tools in a Graduate Level Device Physics Course", IEEE Transactions on Education, Vol. 53, No. 3, pp. 331-335 (2008).
7. D. W. Parent, E. J. Basham, Y. Dessouky, S. Gleixner, G. Young, E. Allen, "Improvements to a Microelectronic Design and Fabrication Course", IEEE Transactions on Education, Vol. 48, No. 3, pp. 497-502 (2005).

8. D. W. Parent, A. Rodriguez, J. E. Ayers and F. C. Jain, "The Photoassisted MOVPE Growth of ZnSe(n)/GaAs(p+) Solar Cells", *Journal of Solid State Communications* pp. 595-599, (2003).
9. Emily Allen, Stacy Gleixner, David Parent, Greg Young, Yasser Dessouky and Linda Vanasupa, "Microelectronics Process Engineering at San Jose State University: A Manufacturing-Oriented Interdisciplinary Degree Program" accepted for publication in the *International Journal of Engineering Education* (March 2002).
10. D. W. Parent, A. Rodriguez, J. E. Ayers and F. C. Jain, "The Photoassisted MOVPE Growth of ZnMgSSe", *Journal of Crystal Growth*, Vol. 224, pp. 212-217 (2001).
11. D. W. Parent, A. Rodriguez, X. G. Zhang, G. Zhao, P. Li, J. E. Ayers and F. C. Jain, "The Photoassisted MOVPE Growth of ZnSSe using Tertiarybutylmercaptan", *Journal of Electronic Materials*, Vol. 29, No. 6, pp. 713-717 (2000).
12. X.G. Zhang, P. Li, G. Zhao, D.W. Parent, F. C. Jain, and J. E. Ayers, "Removal of Threading Dislocations from Patterned Heteroepitaxial Semiconductors", *Journal of Electronic Materials*, Vol. 27 pp. 1248-1253 (1998).
13. F. Jain, E. Heller, D. Parent, H. Wang, W. Zappone, S. Srinivasan, S. Cheung, W. Huang, R. Bansal, J. Preiss, L. Green, A. Arinilli, and M. Russel, "Multiple Quantum Well In-Line Optical Modulators Using Tunable Distributed Bragg Grating Photonically Controlled Active Array", *IEEE Antennas and Propagation Society International Symposium*, Vol. 2, pp. 755-758 (1997).
14. X.G. Zhang, S. Kalisetty, J. Robinson, G. Zhao, D.W. Parent, J. E. Ayers, and F. C. Jain, "Structural properties of ZnS_ySe_{1-y}/ZnSe/GaAs(001) grown by photoassisted metalorganic vapor phase epitaxy", *Journal of Crystal Growth*, Vol. 174 pp 726-732 (1997).
15. D. W. Parent, S. Kalisetty, X. G. Zhang, G. Zhao, W. Zappone, J. Robinson, Evan Heller, J. E. Ayers and F. C. Jain, "A Comparison of Ethyl Iodide and Hydrogen Chloride for doping ZnSe Grown by Photoassisted MOVPE", *Journal of Electronic Materials*, Vol. 26 pp. 710-714 (1997).

Conference Publications:

1. E. J. Basham, D. W. Parent, "Compact digital implementation of a quadratic integrate-and-fire neuron", *Proceedings of the 31'th Annual Engineering in Medicine and Biology Society (EMBC) Conference, San Diego, CA (2012)*.
2. E. J. Basham, A. Sheshadri and D. W. Parent, "An Analog Circuit Silicon Neuron Developed Using Dynamical Systems Theory Approach", *IJCNN (2011)*.
3. S. Kulkarni, E. J. Basham, and D. W. Parent, "A Digital Bit Serial Dynamical System Implementation of a Silicon Neuron", *IJCNN (2011)*.

4. D. W. Parent, E. J. Basham, "Hafnium Transistor Process Design for Neural Interfacing", Proceedings of the 31'th Annual Engineering in Medicine and Biology Society (EMBC) Conference, Minneapolis, MN (2009).
5. E. J. Basham, D. W. Parent, "An Analog Circuit Implementation of a Quadratic Integrate and Fire Neuron", Proceedings of the 31'th Annual Engineering in Medicine and Biology Society (EMBC) Conference, Minneapolis, MN (2009).
6. D. W. Parent, "Improvements to an Electrical Engineering Skill Audit Exam to Improve Student Mastery of Core EE Concepts", Proceedings of the Microelectronic Systems Education Conference, pp. (2009).
7. E. J. Basham, C Baker, D. W. Parent, "Analyzing the Effect of Stimulus on Rhythmic Pattern Generation", 2008 BMES Annual Fall Meeting, St. Louis, MO., Oct. 2-4, 2008.
8. D. W. Parent, E. Basham, "Hafnium Transistor Design for Neural Interfacing", Proceedings of the 30'th Annual Engineering in Medicine and Biology Society (EMBC) Conference, Vancouver British Columbia (2008).
9. D. W. Parent, E. Basham, "A Course for Designing High Gain Analog Applications", Proceedings of the 17'th Bi Annual University, Government, Industry Microelectronics (UGIM) Symposium, Louisville KY (2008).
10. D. W. Parent, P. Weil, "Case Study Using the VSIA QIP to Evaluate Internally Developed Information Property", Design Conference, San Jose CA (2008).
11. D. W. Parent and Lourdes Del Rio-Parent, "Introducing TCAD tools in a graduate course", Proceedings of the Microelectronic Systems Education Conference, pp. 29-30 (2007).
12. S. J. Lee, S. Gleixner, T. R. Hsu, D. Parent, "Implementation of a MEMS Laboratory Course with Modular, Multidisciplinary Team Projects", Proceedings of the 2007 ASEE Annual Meeting (2007).
13. S. J. Lee, S. Gleixner, T. R. Hsu, D. Parent, "A Development Framework for Hands-On Laboratory Modules in Microelectromechanical Systems (MEMS)", *Proceedings of the ASEE Annual Meeting 2006*, Chicago, IL, Paper 2006-2445.
14. D. W. Parent, "A 2-Mask NMOS Process Design Fabricate and Test Module", Proceedings of the 16'th Bi Annual University, Government, Industry Microelectronics (UGIM) Symposium, San Jose CA, pp. 57-62, (2006).
15. E. Basham, D. W. Parent, "Evaluation of a Double Implanted Diffused MOSFET for Analog Operation", Proceedings of the 16'th Bi Annual University,

Government, Industry Microelectronics (UGIM) Symposium, San Jose CA, pp. 125-130 (2006).

16. R. Jain, P. Guttal, D.W. Parent, D. W., "6 Bit Decimation Filter in Sub-threshold Region", Proceedings of the 16'th Bi Annual University, Government, Industry Microelectronics (UGIM) Symposium, San Jose CA, pp. 215 – 219 (2006).
17. Phong, Nguyen; Joseph, Chung; Pascua, Mariavanessa; Tarkul, Scott; Vasham, Eric; Parent, David, "Pixel Level Analog to Digital Converter", Proceedings of the 16'th Bi Annual University, Government, Industry Microelectronics (UGIM) Symposium, San Jose CA, pp. 233 – 235 (2006).
18. F. D. Braun, D.W. Parent, T. A. Papalias, "On-chip temperature control circuit using common devices", Proceedings of the Custom IC Conference, pp. 215-218 (2005).
19. D.W. Parent, E.J. Basham, S. Ng, P. Weil, "An analog leaf cell for analog circuit design", Proceedings of the Microelectronics Systems Education Conference, pp. 11-12 (2005).
20. E. Basham, D. W. Parent, D. Tauck, W. Liu, "Functional Magnetic Stimulation for a Retinal Prosthesis", University of California System Wide Bioengineering Conference, 2005.

Synergistic Activities:

16'th Bi Annual University, Government, Industry Microelectronics:
2006 Conference Chair
Technical reviewer 2006, and 2007

Technical Reviewer:

EMBC 2009, 2010, 2011, and 2012 UGIM 2005 and 2007, Microelectronics Systems conference, Journal of Crystal growth, Vacuum 2011, IET Circuits, Devices & Systems

Director VLSI CAD Lab:

4 Cadence software CMOS design tutorials
10 successful CMOS chip designs through MOSIS
2 TCAD tutorials, 15 TCAD case studies
<http://www.engr.sjsu.edu/~dparent/ICGROUP/index.htm>

Outreach:

Solar Cell Fabrication Class, Tech Academy (2009)
Solar Energy 5'th Los Paseos grade GATE educational experience (2008)
5'th grade Los Paseos Solar Cell Processing Day (2004)

External Grants:

NSF EAGER Grant (PI \$57k)	2009
EEC NSF Grant (CO-PI \$149k)	2009
DMEA Grant (Co-PI, \$12k)	2008
Intel California Public Affairs Equipment Grant (PI \$15k)	2006
Charles Babbage Grant, Synopsys (PI \$25k)	2006
NSF CCLI (Co-PI)	2005
Intel California Public Affairs Equipment Grant (Co-PI \$40k)	2004
Cadence Design Systems Curriculum Development (PI \$499k)	2001-2003
NSF Course, CCLI Grant (Co-PI \$475K)	2000-2003
SME Laboratory Improvement Grant (Co-PI \$70k)	2000

Internal Grants:

Solar Cell course COE Development Grant (PI \$19k)	2009
MPEL Infrastructure COE Development Grant (Co-PI, \$20k)	2008
Mechanics and AMS in Microfluidics for BMEMS(Co-Pi, \$97k)	2006

Collaborators and Co- Authors:

Linda Vanasupa (Cal Poly, SLO), Yasser Dessouky (ISE Dept., SJSU), Stacy Gleixner (CME Dept., SJSU), Greg Young (CME Dept., SJSU), W. Liu UCSC, D. Tauck SCU, John Ayers, University of CT

Graduate Advisor – F.C. Jain (University of CT)

Recent MS Students advised, E. Basham (now at UCSC), Jeremy Buan, Daniela Scheaffer, Paul Weil, Dan Hicks, William Sheung, Juan Gonzonlez, Prashanta Jantz, Kasem Tantanasiwong, Roger Stamness,