

David W. Parent
Full 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 Engineer, 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

Service Activities:

Electrical Engineering Undergraduate Coordinator	2010-2019
RTP College of Engineering representative (Chair 2018)	2012-present
Introduction to Circuit Analysis Coordinator	2016-present
Electrical Engineering upper division Analog Lab Coordinator	2012-present
Designated Faculty Advisor, EE representative	2010-2019
College UG Curriculum Committee, EE representative	2010-present
BOGS, ENGR representative	2017-present
EE ABET "Soft Skill" Assessment coordinator	2006-2017

Journal Publications:

1. P. R. Backer, L. Sullivan-Green, & D.W. Parent, *Assessment of an integrated engineering general education/senior projects course*. Technology Interface International Journal, 19(2), 59-70. (2019)
2. J. Rhee, C. Oyamoto, D. Parent, L. Speer, A. Basu, L. Gerston: *A Case Study of a Co-instructed Multidisciplinary Senior Capstone Project in Sustainability*. Advances in Engineering Education 01/2014; 4(2).
3. Jinny Rhee, David Parent, Anuradha Basu: *The influence of personality and ability on undergraduate teamwork and team performance*. SpringerPlus 12/2013; 2(1):16., DOI:10.1186/2193-1801-2-16
4. Eric Basham, David Parent: *Design Optimization of Transistors Used for Neural Recording*. Active and Passive Electronic Components 02/2012; 2012(0882-7516)., DOI:10.1155/2012/472306
5. Jinny Rhee, David Parent, Clifton Oyamoto: *Influence of Personality on a Senior Project Combining Innovation and Entrepreneurship*. International Journal of Engineering Education 01/2012; 28(2):302-309.

6. David W. Parent: *Improvements to an Electrical Engineering Skill Audit Exam to Improve Student Mastery of Core EE Concepts*. IEEE Transactions on Education 06/2011; 54(2-54):184 - 187., DOI:10.1109/TE.2010.2042451
7. David W. Parent, Lourdes Del Rio-Parent: *Introducing TCAD Tools in a Graduate Level Device Physics Course*. IEEE Transactions on Education 09/2008; 51(3-51):331 - 335., DOI:10.1109/TE.2008.916765
8. S. J. Lee, Stacy H. Gleixner, T. R. Hsu, D. Parent: *A Development Framework for Hands-On Laboratory Modules in Microelectromechanical Systems (MEMS)*.
9. David Parent, Eric Basham, Yasser Dessouky, Stacy Gleixner, Gregory Young, Emily Allen: *Improvements to a Microelectronic Design and Fabrication Course*. IEEE Transactions on Education 09/2005; 48(3-48):497 - 502., DOI:10.1109/TE.2005.849761
10. D.W. Parent, A. Rodriguez, J.E. Ayers, F.C. Jain: *Photoassisted MOVPE grown (n)ZnSe/(p+)GaAs heterojunction solar cells*. Solid-State Electronics 04/2003; 47(4-47):595-599., DOI:10.1016/S0038-1101(02)00334-9
11. Emily Allen, Stacy H. Gleixner, David Parent, Greg Young, Yasser Dessouky, Linda Vanasupa: *Microelectronics Process Engineering at San Jose State University: A Manufacturing-Oriented Interdisciplinary Degree Program*. International Journal of Engineering Education 01/2002; 18(5).
12. Angel Rodriguez, Jeremy Shattuck, Xiaoguang Zhang, Peng Li, David Parent: *Photo-assisted MOVPE growth of ZnMgS on (100) Si*. MRS Online Proceeding Library Archive 01/2002; 692:6., DOI:10.1557/PROC-692-H11.2.1
13. D. W. Parent, A Rodriguez, JE Ayers, FC Jain, D S Shaw: *The photoassisted MOVPE growth of ZnMgSSe*. Journal of Crystal Growth 04/2001; 224(3-4):212-217., DOI:10.1016/S0022-0248(01)00977-0
14. E. Allen, S. Gleixner, G. Young, D. Parent, Y. Dessouky, L. Vanasupa: *Ingeniería de Procesos Microelectrónicos: Un Acercamiento no Tradicional a la Ciencia de Materiales e Ingeniería*. Journal of Materials Education 01/2001; 23(1-3):71-80.
15. D. W. Parent, A. Rodriguez, P. Li, X. G. Zhang, G. Zhao, J. E. Ayers, F. C. Jain: *Photoassisted MOVPE growth of ZnSSe using tertiary-butylmercaptan*. Journal of Electronic Materials 06/2000; 29(6):713-717., DOI:10.1007/s11664-000-0211-4
16. X.G. Zhang, D.W. Parent, P. Li, A. Rodriguez, G. Zhao, J.E. Ayers, F.C. Jain: *X-ray rocking curve analysis of tetragonally distorted ternary semiconductors on mismatched (001) substrates*. Journal of vacuum science & technology B 05/2000; 18(3):1375-1380., DOI:10.1116/1.591388
17. X. G. Zhang, P. Li, D. W. Parent, G. Zhao, J. E. Ayers, F. C. Jain: *Comparison of X-ray diffraction methods for determination of the critical layer thickness for dislocation multiplication*. Journal of Electronic Materials 05/1999; 28(5):553-558., DOI:10.1007/s11664-999-0111-1
18. David Wahlgren Parent: *Photoassisted MOVPE growth of ZnSSe and ZnMgSSe on GaAs substrate, and simulation and fabrication of HBT's and solar cells*.

19. X. G. Zhang, P. Li, G. Zhao, D. W. Parent, F. C. Jain, J. E. Ayers: *Removal of threading dislocations from patterned heteroepitaxial semiconductors by glide to sidewalls*. Journal of Electronic Materials 11/1998; 27(11):1248-1253., DOI:10.1007/s11664-998-0078-3
20. D. W. Parent, S. Kalisetty, X. G. Zhang, G. Zhao, W. Zappone, J. Robinson, E. Heller, J. E. Ayers, F. C. Jain: *A comparison of ethyl iodide and hydrogen chloride for doping ZnSe grown by photoassisted MOVPE*. Journal of Electronic Materials 06/1997; 26(6):710-714., DOI:10.1007/s11664-997-0220-7
21. X.G. Zhang, S. Kalisetty, J. Robinson, G. Zhao, D.W. Parent, J.E. Ayers, F.C. Jain: *Structural properties of Zn_{Sy}Se_{1-y}/ZnSe/GaAs(0 0 1) heterostructures grown by photoassisted metalorganic vapor phase epitaxy*. Journal of Electronic Materials 06/1997; 174(1):726-732., DOI:10.1016/S0022-0248(97)00065-1
22. X. G. Zhang, S. Kalisetty, J. Robinson, G. Zhao, D. W. Parent, J. E. Ayers, F. C. Jain: *Structural Properties of ZnS_{Se}/ZnSe/GaAs (001) Heterostructures Grown by Photoassisted Metalorganic Vapor Phase Epitaxy*. Journal of Electronic Materials 02/1997; 26(6)., DOI:10.1007/s11664-997-0218-1

Conference Proceedings:

1. David W. Parent, Jinny Rhee: *Long term study of prior GPA, prerequisite physics success, class size, and directed self-placement on student success in an introduction to circuit analysis course*. FIE 2019, Paper Accepted
2. David W. Parent: *Pilot study of a workshop designed to improve student learning outcomes in a junior level circuits and signals course*. FIE 2019, Paper Accepted
3. David W. Parent: *Development of a placement exam to increase student success in a junior level circuits and systems class*. FIE 2018; 10/2018
4. David W. Parent: *Examination the impact of various factors on student success in an introduction to circuit analysis course*. FIE 2018; 10/2018
5. David Wahlgren Parent, Patricia Backer: *Integration of an electrical engineering capstone course with social justice and global studies*. FIE 2018, San Jose CA; 10/2018
6. David Parent, Eric Basham: *A Neuromorphic Quadratic, Integrate, and Fire Silicon Neuron with Adaptive Gain*. EMBC, Honolulu Hawaii; 07/2018
7. David W. Parent: *Novel gateway stay/add policy used to increase student success rates in an introductory circuits class*. 2017 IEEE Frontiers in Education Conference (FIE); 10/2017, DOI:10.1109/FIE.2017.8190600
8. David W. Parent: *Improvements to an Electrical Engineering Skill Audit Exam to Improve Student Mastery of Core EE concepts*. Microelectronic Systems Education, 2009. MSE '09. IEEE International Conference on; 08/2009, DOI:10.1109/MSE.2009.5270829

9. David W. Parent, Eric J. Basham: *A Course for Designing Transistors for High Gain Analog Applications*. University/Government/Industry Micro/Nano Symposium, 2008. UGIM 2008. 17th Biennial; 08/2008, DOI:10.1109/UGIM.2008.27
10. D.W. Parent: *A 2-Mask NMOS Process Design Fabricate and Test Module for Use In Microelectronics Instruction and Process Development*. University/Government/Industry Microelectronics Symposium, 2006 16th Biennial; 07/2006, DOI:10.1109/UGIM.2006.4286353
11. E.J. Basham, D.W. Parent: *Evaluation of a Double Implanted Diffused MOSFET for Analog Operation*. University/Government/Industry Microelectronics Symposium, 2006 16th Biennial; 07/2006, DOI:10.1109/UGIM.2006.4286366
12. R. Jain, P. Guttal, D.W. Parent: *6 Bit Decimation Filter in Sub-threshold Region*. University/Government/Industry Microelectronics Symposium, 2006 16th Biennial; 07/2006, DOI:10.1109/UGIM.2006.4286385
13. Nguyen Phong, J. Chung, M. Pascua, S. Tarkul, E. Vasham, D. Parent: *Pixel Level Analog to Digital Converter*. University/Government/Industry Microelectronics Symposium, 2006 16th Biennial; 07/2006, DOI:10.1109/UGIM.2006.4286389
14. F.D. Braun, D.W. Parent, T.A. Papalias: *On-chip temperature control circuit using common devices*. Custom Integrated Circuits Conference, 2005. Proceedings of the IEEE 2005; 10/2005, DOI:10.1109/CICC.2005.1568645
15. D.W. Parent, E.J. Basham, S. Ng, P. Weil: *An analog leaf cell for analog circuit design*. Microelectronic Systems Education, 2005. (MSE '05). Proceedings. 2005 IEEE International Conference on; 07/2005, DOI:10.1109/MSE.2005.17
16. D.W. Parent: *University/Industry Relationships at San Jose State University to Produce Industry's Ideal New Hire*. Microelectronic Systems Education, 2003. Proceedings. 2003 IEEE International Conference on; 07/2003, DOI:10.1109/MSE.2003.1205267
17. Stacy Gleixner, Greg Young, Linda Vanasupa, Yasser Dessouky, Emily Allen, David Parent: *Teaching Design Of Experiments And Statistical Analysis Of Data Through Laboratory Experiments*. Frontiers in Education, 2002. FIE 2002. 32nd Annual; 02/2002, DOI:10.1109/FIE.2002.1157932
18. David Parent, Yasser Dessouky, Stacy Gleixner, Gregory Young, Emily Allen: *Microelectronics process engineering program at SJSU*. University/Government/Industry Microelectronics Symposium, 2001. Proceedings of the Fourteenth Biennial; 02/2001, DOI:10.1109/UGIM.2001.960313
19. F. Jain, E. Heller, D. Parent, H Wang, W. Zappone, S. Srinivasan, S. Cheung, W Huang, R. Bansal, J. Preiss, L. Green, A. Marinilli, M. Russell: *Multiple quantum well in-line optical modulators using tunable distributed Bragg gratings photonically controlled active array*. Antennas and Propagation Society International Symposium, 1997. IEEE., 1997 Digest; 08/1997, DOI:10.1109/APS.1997.631571

Technical Reviewer:

IEEE Transactions on Education, 2012, EMBC 2009, 2010, 2011, and 2012, 2018, 2019 UGIM 2005 and 2007, Microelectronics Systems conference, Journal of Crystal growth

Outreach:

High Tech U (2010-present)
Solar Cell Fabrication Class, Tech Academy (2009)
Solar Energy 5th Los Paseos grade GATE educational experience (2008)
5th grade Los Paseos Solar Cell Processing Day (2004)

Grants:

NSF First in the World Grant, (Co-Pi \$ 3 million)	2016
NSF EAGER Grant (PI \$57k)	2009
EEC NSF Grant (CO-PI \$149k)	2009
DMEA Cooperative Agreement Research Project Grant (Co-PI, \$12k)	2008
NSF CCLI (Co-PI)	2005
NSF Course, CCLI Grant (Co-PI \$475K)	2000
SME Laboratory Improvement Grant (Co-PI \$70k)	2000

Collaborators and Co- Authors:

John Lee (ME Dept., SJSU) 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, Jinny Rhee (associate dean), Pat Baker (General Engineering)
Graduate Advisor – F.C. Jain (University of CT)