

Amy V. Kauppila

Curriculum Vitae

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Jacobs Hall 382

(615) 322-1894

amy.kauppila@vanderbilt.edu

Education:

Ph.D., Electrical Engineering, Vanderbilt University, Nashville, TN, 2012

Concentration: Radiation Effects on Electronic Circuits

M. S., Electrical Engineering, Vanderbilt University, Nashville, TN, 2003

Concentration: Radiation Effects on Electronic Circuits

B. S., Electrical Engineering, Auburn University, Auburn, AL, 2001

Employment:

Vanderbilt University

Assistant Professor of the Practice, August, 2015 – Present

Adjunct Professor, January, 2015 – August, 2015

InfoWorks, Inc.

Technical Consultant, 2005 – Present

Lipscomb University

Adjunct Professor, January, 2014 – December, 2014

Presentations:

- N. Gaspard, S. Jagannathan, Z. Diggins, A. V. Kauppila, T. D. Loveless, J. S. Kauppila, B. L. Bhuvan, L. W. Massengill, W. T. Holman, A. S. Oates, Y. Fang, S. Wen, R. Wong, "Effect of threshold voltage implants on single-event error rates of D flip-flops in 28-nm bulk CMOS," IEEE Intl. Reliability Physics Symposium, Monterey, California, April 2013.
- A. V. Kauppila, B. L. Bhuvan, T. D. Loveless, Z. J. Diggins, S. Jagannathan, N. J. Gaspard, J. S. Kauppila, L. W. Massengill, S. J. Wen, R. Wong, W. T. Holman, "Effect of Negative Bias Temperature Instability on the Single Event Upset Response of 40 nm Flip-Flops," Accepted for presentation at NSREC, Miami, Florida, July 2012.
- A. V. Kauppila, B. L. Bhuvan, L. W. Massengill, W. T. Holman, D. R. Ball, "Impact of Process Variations on Charge-Sharing Induced Upset Reversal in a 65 nm Flip-Flop," presented at RADECS, Sevilla, Spain, September 2011.

- A. V. Kauppila, B. L. Bhuvan, L. W. Massengill, W. T. Holman, D. R. Ball, "Impact of Process Variations and Charge Sharing on the Single Event Upset Response of Flip-Flops," presented at NSREC, Las Vegas, Nevada, July 2011.
- A. V. Kauppila, B. L. Bhuvan, J. S. Kauppila, L. W. Massengill, W. T. Holman, "Impact of Process Variations on SRAM Single Event Upsets," presented at RADECS, Langenfeld, Austria, September 2010.
- A. V. Kauppila, T. D. Loveless, G. L. Vaughn, B. L. Bhuvan, L. W. Massengill, W. T. Holman, "Analysis of the Single Event Effects for a 90 nm CMOS Phase-Locked Loop," presented at RADECS, Bruges, Belgium, September 2009.
- A. V. Kauppila, G. L. Vaughn, J. S. Kauppila, L. W. Massengill, "Probabilistic Evaluation of Analog Single Event Transients," presented at NSREC, Honolulu, Hawaii, July 2007.
- A. V. Kauppila, L. W. Massengill, W. T. Holman, G. L. Vaughn, J. S. Kauppila, "Frequency-domain analysis of analog single-event transients (ASET) based on energy spectral density," presented at NSREC, Atlanta, Georgia, July 2004.
- A. V. Kauppila, L. W. Massengill, W. T. Holman, "System Level Categorization of Analog Single Event Transients," Single Events Effects Symposium Proceedings, California, April 2004. • A. V. Kauppila, L. W. Massengill, W. T. Holman, "Transient Radiation Analysis of a Folded Cascode Operational Amplifier Targeted to the Intersil EBHF Bipolar Process," presented at HEART, Monterey, California, March 2004.

Publications:

- A. V. Kauppila, B. L. Bhuvan, T. D. Loveless, S. Jagannathan, N. J. Gaspard, J. S. Kauppila, L. W. Massengill, S. J. Wen, R. Wong, G. L. Vaughn, W. T. Holman, "Effect of Negative Bias Temperature Instability on the Single Event Upset Response of 40 nm Flip-Flops," IEEE Transactions on Nuclear Science, vol. 59 (6), pp. 2651-2657, December 2012.
- A. V. Kauppila, D. R. Ball, B. L. Bhuvan, L. W. Massengill, W. T. Holman, "Impact of Process Variations on Upset Reversal in a 65 nm Flip-Flop," IEEE Transactions on Nuclear Science, vol. 59 (4), pp. 886-892, August 2012.
- A. V. Kauppila, B. L. Bhuvan, L. W. Massengill, W. T. Holman, D. R. Ball, "Impact of Process Variations and Charge Sharing on the Single Event Upset Response of Flip-Flops," IEEE Transactions on Nuclear Science, vol. 58 (6), pp. 2658-2663, December 2011.
- J. S. Kauppila, T. D. Haeffner, D. R. Ball, A. V. Kauppila, T. D. Loveless, S. Jagannathan, A. L. Sternberg, B. L. Bhuvan, L. W. Massengill, "Circuit-Level Layout-Aware Single-Event Sensitive-Area Analysis of 40nm Bulk CMOS Flip-flops Using Compact Modeling," IEEE Transactions on Nuclear Science, vol. 58 (6), pp. 2680-2686, December 2011.
- A. V. Kauppila, B. L. Bhuvan, J. S. Kauppila, L. W. Massengill, W. T. Holman, "Impact of Process Variations on SRAM Single Event Upsets," IEEE Transactions on Nuclear Science, vol. 58 (3), pp. 834-839, June 2011.

- A. V. Kauppila, T. D. Loveless, G. L. Vaughn, B. L. Bhuvva, L. W. Massengill, W. T. Holman, "Analysis of the Single Event Effects for a 90 nm CMOS Phase-Locked Loop," 2009 Proceedings of the European Conference on Radiation and Its Effects on Components and Systems, pp. 201-206, 2009.
- A. V. Kauppila, G. L. Vaughn, J. S. Kauppila, L. W. Massengill, "Probabilistic Evaluation of Analog Single Event Transients," IEEE Transactions on Nuclear Science, vol. 54 (6), pp. 2131-2136, vol. 54 (6), December 2007.
- A. V. Kauppila, L. W. Massengill, W. T. Holman, "Transient Radiation Analysis of a Folded Cascode Operational Amplifier Targeted to the Intersil EBHF Bipolar Process," Journal of Radiation Effects, Research, and Engineering, vol. 23 (1), September 2007
- A. V. Kauppila, L. W. Massengill, W. T. Holman, G. L. Vaughn, J. S. Kauppila, "Frequency-domain analysis of analog single-event transients (ASET) based on energy spectral density," IEEE Transactions on Nuclear Science, vol. 51 (6), pp. 3537-3545, December 2004.
- J. S. Kauppila, L. W. Massengill, W. T. Holman, A. V. Kauppila, S. Sanathanamurthy, "Single Event Simulation Methodology for Analog/Mixed Signal Design Hardening," IEEE Transactions on Nuclear Science, vol. 51 (6), pp. 3603-3608, December 2004.
- A. V. Kauppila, L. W. Massengill, W. T. Holman, "System Level Categorization of Analog Single Event Transients," Single Events Effects Symposium Proceedings, 2004.

Awards:

- University Graduate Fellowship, Vanderbilt University
- National Science Foundation Graduate Research Fellow
- IBM Topping Up Award, Vanderbilt University
- Tau Beta Pi Graduate Research Fellow