Joseph C. Bardin

Education and Training

- **California Institute of Technology**, Pasadena CA
  Postdoctoral Researcher, June 2009-September 2010
  Advisor: Dr. Ali Hajimiri
- **California Institute of Technology**, Pasadena CA
  Ph.D in Electrical Engineering, June 2009
  Advisor: Dr. Sander Weinreb
- **University of California, Los Angeles**, Westwood, CA
  M.S. in Electrical Engineering, April 2005
  Advisor: Dr. Sander Weinreb
- **University of California, Santa Barbara**, Santa Barabara, CA
  B.S. in Electrical Engineering, March 2003

Appointments

- **ECE Department, University of Massachusetts Amherst**
  Assistant Professor, Jan. 2011–Jan 2017
  Associate Professor, Jan. 2017–present

Awards and Honors

- **Award for Research and Creativity**, UMass Amherst, 2016
- **Barbara H. and Joseph I. Goldstein Outstanding Junior Faculty Award**, UMass COE, 2016
- **ONR YIP Award**, April, 2015
- **NSF CAREER Award**, January 2014
- **DARPA Young Faculty Award**, July 2011

Selected Publications

P. Ravindran, S.-W. Chang, W.-T. Wong, S. Sarwana, V. Dotsenko, J. Tang, S. Ruotolo, D. Gupta, and J. C. Bardin, "Energy Efficient Digital Data Link," *IEEE Transactions on Applied Superconductivity*, 2017 http://dx.doi.org/10.1109/TASC.2016.2636252

S. Montazeri, P. K. Grimes, C..-Y. Edward Tong, and Joseph C. Bardin, "A Wide-Band High-Gain Compact SIS Receiver utilizing a 300 μW SiGe IF LNA", *IEEE Transactions on Applied Superconductivity,* 2017 http://dx.doi.org/10.1109/TASC.2016.2631441

S.-W. Chang, J. Aumentado, and J.C. Bardin, "Noise Measurement of Cryogenic Low Noise Amplifiers Using a Tunnel-Junction Shot-Noise Source," *Proc. 2106 IEEE International Microwave Symposium*, San Francisco, CA, May, 22-27, 2016.

W.-T. Wong, P. Ravindran, S.-W. Chang, and J.C. Bardin, "A SiGe Ka-Band Cryogenic Low-Noise Amplifier," *Proc. 2016 IEEE International Microwave Symposium*, San Francisco, CA, May 22-27, 2016.

S. Montazeri, W.-T. Wong, A. H. Coskun, and J. C. Bardin, "Ultra-Low Power Cryogenic SiGe Low-Noise Amplifiers: Theory and Demonstration," *IEEE Transactions on Microwave Theory and Techniques*, Vol. 64, No. 1, pp. 178–187, Jan. 2016. http://dx.doi.org/10.1109/TMTT.2015.2497685

S. Montazeri, C.-Y. Tong, P. Grimes, and J.C. Bardin, "A 220 GHz SIS Mixer Tightly Integrated with a Sub-Hundred Microwatt SiGe IF Amplifier," *IEEE Transactions on Terahertz Science and Technology*, 6(1), pp. 133–140, Jan. 2016. http://dx.doi.org/10.1109/TTHZ.2015.2498041.

S. Pi, M. Ghadiri Sadrabadi, J.C. Bardin, and Q. Xia, "Nanoscale Memristive Radiofrequency Switches," *Nature Communications*, 6:7519 http://doi.org/10.1038/ncomms8519, May 2015.

P. Ravindran, S.-W. Chang, D. Gupta, A. Inamdar, V. Dotsenko, S. Sarwana, and J.C. Bardin, "Power-Optimized Temperature-Distributed Digital Data Link," *IEEE Transactions on Applied Superconductivity*, 25(3), 1300605, http://dx.doi.org/10.1109/TASC.2014.2372339, June, 2015.

J.C. Bardin, A.H. Coskun, M. Ayata, Z.G. Boynton, and J.C. Li, "Broadband Noise Performance of Heterogeneously Integrated InP BiCMOS DHBTs," *Electron Device Letters, IEEE* , vol.35, no.10, pp.998-1000, http://dx.doi.org/10.1109/LED.2014.2343942, Oct. 2014.

A.H. Coskun and J.C. Bardin, "Cryogenic small-signal and noise performance of 32nm SOI CMOS," *Microwave Symposium (IMS), 2014 IEEE MTT-S International*, pp. 1-4, 1-6 June 2014.
http://dx.doi.org/10.1109/MWSYM.2014.6848614

J.C. Bardin, P. Ravindran, S.-W. Chang, R. Kumar, J.A. Stern, M.D. Shaw, D.S. Russell, and W.H. Farr, "A high-speed cryogenic SiGe channel combiner IC for large photon-starved SNSPD arrays," *Bipolar/BiCMOS Circuits and Technology Meeting (BCTM), 2013 IEEE*, pp.215,218, Oct. 2013.
http://dx.doi.org/10.1109/BCTM.2013.6798179

(Invited) J.C. Bardin, "Cryogenic Low-Noise Ampliers," in *Extreme Environment Electronics*, John Cressler and Alan Mantooth, Ed., CRC press, 2012, pp. 545-562.