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EDUCATION

Massachusetts Institute of Technology
Ph.D. Candidate in Electrical Engineering and Computer Science, June 2007
Advisor: Anantha Chandrakasan
Cambridge, MA

Massachusetts Institute of Technology
Master of Science in Electrical Engineering and Computer Science, August 2002
Advisor: Jeff Lang
Cambridge, MA

University of Michigan
Bachelor of Science in Electrical Engineering, December 1999
Ann Arbor, MI

PROFESSIONAL EXPERIENCE

UNIVERSITY OF MICHIGAN, Ann Arbor, MI

<i>Full Professor, with Tenure</i>	Sept. 2020 – Present
<i>Faculty Director, Center for Entrepreneurship</i>	Sept. 2014 – Dec. 2022
<i>Associate Professor, with Tenure</i>	Sept. 2013 – Aug. 2020
<i>Assistant Professor</i>	Sept. 2007 – Aug. 2013

EVERACTIVE, Ann Arbor, MI <i>Co-Founder and Co-CTO</i>	June 2012 – Present
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MOVELLUS, Ann Arbor, MI <i>Co-Founder and Member, Board of Directors</i>	Aug. 2013 – Present
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MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA <i>Research Assistant – Microsystems Technology Laboratory</i>	Aug. 2002 – June 2007
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INTEL CORPORATION, Hillsboro, OR <i>Internship – Portland Technology Development</i>	June 2004 – Aug. 2004
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MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA <i>Research Assistant – Laboratory for Electromagnetic and Electronic Systems</i>	Aug. 2000 – Aug. 2002
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FORD MOTOR COMPANY, Dearborn, MI <i>Internship – Powertrain Department</i>	May 1999 – July 2000
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TEACHING EXPERIENCE

UNIVERSITY OF MICHIGAN, Ann Arbor, MI <i>Lecturer – EECS496 Major Design Experience - Professionalism</i>	Winter 2022, Fall 2023, 2024
<i>Lecturer – ENG100 Self-Driving Cars, Drones, and Beyond</i>	Winter 2019

<i>Lecturer – EECS522 Analog Integrated Circuits</i>	Winter '08-'13, '15-'16, '18, '20-'24
<i>Lecturer – EECS215 Introduction to Electronic Circuits</i>	Fall 2012, 2014, 2020
<i>Lecturer – EECS598 Advanced Topics in ICs</i>	Winter 2011, 2015
<i>Lecturer – EECS311 Electronic Circuits</i>	Fall 2008-11
<i>Lecturer – EECS413 Monolithic Amplifier Circuits</i>	Fall 2007, 2015
<i>Student Instructor – EECS 373 Design of Microprocessor-Based Systems</i>	Winter 1999
MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA	
<i>Teaching Assistant – 6.111 Introductory Digital Systems Laboratory</i>	Winter 2007
<i>Head Teaching Assistant – 6.002 Electronic Circuits</i>	Fall 2005

PROFESSIONAL SERVICE

1. IEEE International Solid-State Circuits Conference (ISSCC) 2020-2024
TPC Member, Wireless Subcommittee
2. IEEE Radio Frequency IC Conference (RFIC) 2013-2023
Low-Power Radios Sub-Committee Chair, Session Chair, Workshop Organizer, and TPC Member
3. IEEE International Symposium on Low-Power Electronics and Design (ISLPED) 2011-2016
TPC Member
4. IEEE SOI-3D-Subthreshold Microelectronics Technology Unified Conference (S3S) 2013-2014
TPC Member
5. IEEE Conference on Ultra-Wideband (ICUWB) 2008-2010
Session Chair, TPC Member
6. Guest editor for the IEEE T-MTT, the IEEE Communications Magazine, and the Elsevier Journal of Signal Processing: Image Communication

AWARDS

1. University of Michigan Faculty Recognition Award, 2024
2. IEEE International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design (SMACD), Best Paper Award, 2023
3. IEEE Custom Integrated Circuits Conference (CICC) 2020 Outstanding Invited Paper Award, 2020
4. ECE Innovator Award, SkyGig (role: advisor), 2018
5. Joel and Ruth Spira Excellence in Teaching Award, 2015
6. Eta Kappa Nu (HKN) Professor of the Year, 2014-2015
7. EECS Department Outstanding Achievement Award, 2015
8. ISSCC 2014 Outstanding Forum Speaker Award
9. NSF CAREER Award, 2012
10. IEEE Subthreshold Microelectronics Conference Best Paper Award, 2012
11. DAC/ISSCC Student Design Contest Award, 2011
12. Eta Kappa Nu (HKN) Professor of the Year Award, 2009-2010
13. DARPA Young Faculty Award, 2009
14. Analog Devices distinguished scholar, 2004
15. MIT Masterworks (1 of 9 annual awards for excellence in Master's research), 2002

PUBLICATIONS

Journal Papers

1. A. Li, et al., "A Fully Integrated, Automatically Generated DC–DC Converter Maintaining >75% Efficiency From 398 K Down to 23 K Across Wide Load Ranges in 12-nm FinFET," in *IEEE Solid-State Circuits Letters*, vol. 7, pp. 42-45, 2024.
2. M. Moosavifar, J. Im and D. D. Wentzloff, "An Interference-Resilient Bit-Level Duty-Cycled ULP Receiver Leveraging a Dual-Chirp Modulation," in *IEEE Journal of Solid-State Circuits*, vol. 59, no. 2, pp. 337-348, Feb. 2024.
3. Anhang Li, Jeongsup Lee, Prashansa Mukim, Brian D. Hoskins, Pragya Shrestha, David Wentzloff, David Blaauw, Dennis Sylvester, Mehdi Saligane, "A fully integrated, automatically generated DC-DC converter maintaining >75% efficiency from 398 K down to 23 K across wide load ranges in 12 nm FinFET," *IEEE Solid State Circuits Letters*, 2024.
4. A. Gupta, T. J. Odelberg and D. Wentzloff, "Low-Power Heterodyne Receiver Architectures: Review, Theory, and Examples," in *IEEE Open Journal of the Solid-State Circuits Society*, vol. 3, pp. 225-238, 2023.
5. D. S. Truesdell, J. Boley, A. Wokhlu, A. Gravel, D. D. Wentzloff and B. H. Calhoun, "Modeling and Design of Cold-Start Charge Pumps for Photovoltaic Energy Harvesters," in *IEEE Transactions on Circuits and Systems I: Regular Papers*, vol. 70, no. 11, pp. 4334-4345, Nov. 2023.
6. N. M. Michels, A. J. Jinia, S. D. Clarke, H. -S. Kim, S. A. Pozzi and D. D. Wentzloff, "Real-Time Classification of Radiation Pulses With Piled-Up Recovery Using an FPGA-Based Artificial Neural Network," *IEEE Access*, vol. 11, pp. 78074-78083, 2023.
7. M. Moosavifar, J. Im and D. D. Wentzloff, "An Interference-Resilient Bit-Level Duty-Cycled ULP Receiver Leveraging a Dual-Chirp Modulation," *IEEE Journal of Solid-State Circuits*, 2023.
8. A. J. Jinia, T.E. Maurer, C. A. Meert, O. V. Pakari, S. D. Clarke, H. S. Kim, D. D. Wentzloff, and S. A. Pozzi, "Prompt photofission neutron detection in depleted uranium," accepted for publication in *Physical Review Applied*, 2023.
9. Y. K. Cherivirala and D. D. Wentzloff, "A Capacitor-less Digital LDO Regulator with Synthesizable PID Controller Achieving 99.75% Efficiency and 93.3ps Response Time in 65nm," in *IEEE Transactions on Circuits and Systems II: Express Briefs*, 2023.
10. K. Kwon, O. A. B. Abdelatty and D. D. Wentzloff, "PLL Fractional Spur's Impact on FSK Spectrum and a Synthesizable ADPLL for a Bluetooth Transmitter," in *IEEE Journal of Solid-State Circuits*, 2023.
11. Yu-Ju Lin; Hyunsoo Song; Sungjin Oh; Mihaly Voroslakos; Kanghwan Kim; Xing Chen; David Wentzloff; Gyorgy Buzsaki; Sung-Yun Park; Euisik Yoon, "A 3.1-5.2GHz, Energy-Efficient Single Antenna, Cancellation-Free, Bitwise Time-Division Duplex Transceiver for High Channel Count Optogenetic Neural Interface," *IEEE Transactions on Biomedical Circuits and Systems*, 2022.
12. Abbas J. Jinia; Tessa E. Maurer; Christopher A. Meert; Michael Y. Hua; S. D. Clarke; Hun-Seok Kim; David D. Wentzloff; Sara A. Pozzi, "An Artificial Neural Network System for Photon-Based Active Interrogation Applications," *IEEE Access*, Vol. 9, 2021.
13. D. D. Wentzloff, A. Alghaihab, J. Im, O. Abdelatty, T. Odelberg, "Ultralow-Power Receivers: Overcoming Battery Limitations to Facilitate Self-Powered Operation," *IEEE Solid-State Circuits Magazine*, Vol. 13, No. 3, 2021, pp. 33-37.
14. A. J. Jinia, T. E. Maurer, C. A. Meert, M. Y. Hua, S. D. Clarke; H.-S. Kim, D. D. Wentzloff, S. A. Pozzi "An Artificial Neural Network System for Photon-Based Active Interrogation Applications," *IEEE Access*, August 2021, pp. 119871 – 119880.

15. O. Abdelatty, X. Chen, A. Alghaihab, D. Wentzloff, "Bluetooth Communication Leveraging Ultra-Low Power Radio Design," *Journal of Sensor and Actuator Networks (JSAN)*, **Featured Article**.
16. X. Chen, A. Alghaihab, Y. Shi, D. S. Truesdell, B. H. Calhoun, D. D. Wentzloff, "A Crystal-Less BLE Transmitter with Clock Recovery from GFSK-Modulated BLE Packets," *IEEE Journal of Solid-State Circuits (JSSC)*, Vol. 56, No. 7, pp. 1963 – 1974, January 2021.
17. L.-X. Chuo, D. Blaauw, H.-S. Kim, Z. Feng, Y. Kim, N. Chiotellis, M. Yasuda, S. Miyoshi, M. Kawaminami, A. Grbic, D. D. Wentzloff, "Millimeter-Scale Node-to-Node Radio Using a Carrier Frequency-Interlocking IF Receiver for a Fully Integrated 4 x 4 x 4 mm³ Wireless Sensor Node," *IEEE Journal of Solid-State Circuits (JSSC)*, Vol. 55, No. 5, 2020.
18. J. Im, H.-S. Kim, D. D. Wentzloff, "A 220 μ W -83 dBm 5.8 GHz 3rd-Harmonic Passive Mixer-First LP-WUR for IEEE 802.11ba," *IEEE Transactions on Microwave Theory and Techniques*. May 2019
19. A. Alghaihab, Y. Shi, J. Breiholz, H.-S. Kim, B. H. Calhoun, D. D. Wentzloff, "Enhanced Interference Rejection Bluetooth Low-Energy Back-Channel Receiver with LO Frequency Hopping," *IEEE Journal of Solid-State Circuits (JSSC)*, March 2019
20. X. Chen, J. Breiholz, F. B. Yahya, C. J. Lukas, H.-S. Kim, B. H. Calhoun, D. D. Wentzloff, "Analysis and Design of an Ultra-Low-Power Bluetooth Low-Energy Transmitter With Ring Oscillator-Based ADPLL and 4x Frequency Edge Combiner," *IEEE Journal of Solid-State Circuits (JSSC)*, February 2019, pp. 1-12
21. C. J. Lukas, F. B. Yahya, J. Breiholz, A. Roy, X. Chen, H. N. Patel, N. Liu, A. Kosari, S. Li, D. Akella, O. Ayorinde, D. D. Wentzloff, B. H. Calhoun, "A 1.02 μ W Battery-less, Continuous Sensing and Post-processing SiP for Wearable Applications," in *Biomedical Circuits and Systems*, *IEEE Transactions*, Jan. 2019
22. A. Kosari, J. Breiholz, N. Liu, B.H. Calhoun, D.D. Wentzloff, "A 0.5 V 68 nW ECG Monitoring Analog Front-End for Arrhythmia Diagnosis," *J. Low Power Electron. Appl.* 8, 27, June 2018
23. A. Alghaihab, H.-S. Kim, D. D. Wentzloff, "Analysis of Circuit Noise and Non-ideal Filtering Impact on Energy Detection Based Ultra-Low-Power Radios Performance," *IEEE Transactions on Circuits and Systems II: Express Briefs*, No. 99., February 2018
24. A. Kosari, H.-S. Kim, D. D. Wentzloff, "A MURS Band Digital Quadrature Transmitter with Class-B I/Q Cell Sharing for Long Range IoT Applications," *IEEE Transactions on Circuits and Systems II (TCAS-II)*, No. 99, January 2018
25. Y.-J. Lin, S.Y. Park, X. Chen, D. Wentzloff, E. Yoon, "4.32-pJ/b, Overlap-Free, Feedforward Edge-Combiner-Based Ultra-Wideband Transmitter for High-Channel-Count Neural Recording," *IEEE Microwave and Wireless Components Letters*, vol. 28, no. 1, January 2018, pp. 52-54
26. T. Jang, G. Kim, B. Kempke, M. B. Henry, N. Chiotellis, C. Pfeiffer; D. Kim, Y. Kim, Z. Foo, H. Kim, A. Grbic, D. Sylvester, H.-S. Kim, D. D. Wentzloff; D. Blaauw, "Circuit and System Designs of Ultra-Low Power Sensor Nodes With Illustration in a Miniaturized GNSS Logger for Position Tracking: Part I—Analog Circuit Techniques," *IEEE Transactions on Circuits and Systems I (TCAS-I)*, Vol. 64, No. 9, 2017, pp 2237-2249
27. T. Jang, G. Kim, B. Kempke, M. B. Henry, N. Chiotellis, C. Pfeiffer, D. Kim, Y. Kim, Z. Foo, H. Kim, A. Grbic, D. Sylvester, H.-S. Kim, D. D. Wentzloff, D. Blaauw, "Circuit and System Designs of Ultra-Low Power Sensor Nodes With Illustration in a Miniaturized GNSS Logger for Position Tracking: Part II—Data Communication, Energy Harvesting, Power Management, and Digital Circuits," *IEEE Transactions on Circuits and Systems I (TCAS-I)*, Vol. 64, No. 9, 2017, pp. 2250-2262
28. Y. Chen, N. Chiotellis, L.-X. Chuo, C. Pfeiffer, Y. Shi, R. G. Dreslinski, A. Grbic, T. Mudge, D. D. Wentzloff, D. Blaauw, H. S. Kim, "Energy-Autonomous Wireless Communication for Millimeter-Scale Internet-of-Things Sensor Nodes," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 34, no. 12, pp. 3962-3977, December 2016

29. Yao Shi; Myungjoon Choi; Ziyun Li; Zhihong Luo; Gyouho Kim; Zhiyoong Foo; Hun-Seok Kim; David D. Wentzloff; David Blaauw, "A 10 mm³ Inductive Coupling Radio for Syringe-Implantable Smart Sensor Nodes," IEEE Journal of Solid-State Circuits, 2016
30. Hun Seok Kim; David D. Wentzloff, "Back-Channel Wireless Communication Embedded in WiFi-Compliant OFDM Packets," IEEE Journal on Selected Areas in Communications, 2016
31. Yajing Chen; Nikolaos Chiotellis; Li-Xuan Chuo; Carl Pfeiffer; Yao Shi; Ronald G. Dreslinski; Anthony Grbic; Trevor Mudge; David D Wentzloff; David Blaauw; Hun Seok Kim, "Energy-Autonomous Wireless Communication for Millimeter-Scale Internet-of-Things Sensor Nodes," IEEE Journal on Selected Areas in Communications, 2016
32. A. Roy, A. Klinefelter, F. B. Yahya, X. Chen, L. P. Gonzalez-Guerrero, C. J. Lukas, D. A. Kamakshi, J. Boley, K. Craig, M. Faisal, S. Oh, N. E. Roberts, Y. Shakhsher, A. Shrivastava, D. P. Vasudevan, D. D. Wentzloff, B. H. Calhoun, "A 6.45 μW Self-Powered SoC With Integrated Energy-Harvesting Power Management and ULP Asymmetric Radios for Portable Biomedical Systems," in Biomedical Circuits and Systems, IEEE Transactions on , vol.9, no.6, pp.862-874, Dec. 2015.
33. O. U. Khan, D. D. Wentzloff, "Hardware Accelerator for Probabilistic Inference in 65-nm CMOS," IEEE Transactions on VLSI Systems, 2015.
34. A. Shrivastava, N. E. Roberts, O. U. Khan, D. D. Wentzloff, B. H. Calhoun, "A 10 mV-Input Boost Converter With Inductor Peak Current Control and Zero Detection for Thermoelectric and Solar Energy Harvesting With 220 mV Cold-Start and - 14.5 dBm, 915 MHz RF Kick-Start," IEEE Journal of Solid-State Circuits, Volume: 50, Issue: 8, 2015, pp. 1820-1832.
35. V. Misra, A. Bozkurt, B. Calhoun, T. Jackson, J. Jur, J. Lach, B. Lee, J. Muth, O. Oralkan, M. Ozturk, S. Trolier-McKinstry, D. Vashae, D. D. Wentzloff, Y. Zhu, "Flexible Technologies for Self-Powered Wearable Health and Environmental Sensing," Proceedings of the IEEE, Volume: 103, Issue: 4, 2015, pp. 665 – 681
36. O. Khan, D. D. Wentzloff, "8.1 nJ/b 2.4 GHz Short-Range Communication Receiver in 65 nm CMOS," IEEE Transactions on Circuits and Systems I, Volume: 62, Issue: 7, 2015, pp. 1854 – 1862
37. M. Rais-Zadeh, J. T. Fox, D. D. Wentzloff, Y. B. Gianchandani, "Reconfigurable Radios: A Possible Solution to Reduce Entry Costs in Wireless Phones," Proceedings of the IEEE, Volume: 103, Issue: 3, 2015, pp. 438 – 451
38. K.-K. Huang, D. D. Wentzloff, "A 1.2-MHz 5.8-uW Temperature-Compensated Relaxation Oscillator in 130-nm CMOS," IEEE Transactions on Circuits and Systems - II, vol. 61, no. 5, May 2014, pp. 334-338
39. K.-K. Huang, J. K. Brown, E. Ansari, R. R. Rogel, Y. Lee, H. Kim, D. D. Wentzloff, "An Ultra-Low-Power 9.8GHz Crystal-Less UWB Transceiver with Digital Baseband Integrated in 0.18 μm BiCMOS," IEEE Journal on Solid-State Circuits (JSSC), 2013
40. S. Han, D. D. Wentzloff, "Characterization of the Proximity Effect from Tungsten TSVs on 130-nm CMOS Devices in 3-D ICs," IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Sept. 2014, pp 2025-2029
41. M. Faisal, R. T. Schiffer, M. J. Haling, M. Flaska, S. A. Pozzi, D. D. Wentzloff, "A Data Processing System for Real-Time Pulse Processing and Timing Enhancement for Nuclear Particle Detection Systems," IEEE Transactions on Nuclear Science (TNS), 2013
42. J. K. Brown, D. D. Wentzloff, "A GSM-Based Clock-Harvesting Receiver With –87 dBm Sensitivity for Sensor Network Wake-Up," IEEE Journal of Solid-State Circuits (JSSC), vol. 48, no. 3, March 2013, pp. 661-669.

43. O. U. Khan, S.-Y. Chen, W. E. Stark, D. D. Wentzloff, "Impact of Compressed Sensing and Finite Quantization on the Performance of a UWB Receiver with Multipath Channel Estimation," IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS), Vol. 2, No. 3, Sept. 2012, pp. 460-469.
44. J. K. Brown, D. D. Wentzloff, "A Clock-Harvesting Receiver using 3G CDMA Signals in the 1900MHz-Band," to appear in IEEE Transactions on Circuits and Systems II (TCAS-II), 2012.
45. N. E. Roberts, S. Oh, D. D. Wentzloff, "Exploiting Channel Periodicity in Body Sensor Networks," IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS), vol. 2, no. 1, Mar. 2012, pp. 3-14.
46. B. H. Calhoun, J. Lach, J. Stankovic, D. D. Wentzloff, K. Whitehouse, A. T. Barth, J. K. Brown, Q. Li, S. Oh, N. E. Roberts, Y. Zhang, "Body Sensor Networks: A Holistic Approach from Silicon to Users," Proceedings of the IEEE, Vol. 100, No. 1, 2012, pp. 91-106.
47. K. K. Huang, D. D. Wentzloff, "A 60 GHz Antenna-Referenced Frequency-Locked Loop in 0.13 μ m CMOS for Wireless Sensor Networks," IEEE Journal of Solid-State Circuits (JSSC), Vol. 46, No. 12, Dec. 2011, pp. 2956-2965.
48. Y. Park, D. D. Wentzloff, "A Cyclic Vernier TDC for ADPLLs Synthesized From a Standard Cell Library," IEEE Transactions on Circuits and Systems I (TCAS-I), Vol. 58, No. 7, July 2011, pp. 1511-1517.
49. Y. Park, D. D. Wentzloff, "An All-Digital 12 pJ/Pulse IR-UWB Transmitter Synthesized From a Standard Cell Library," IEEE Journal of Solid-State Circuits (JSSC), Vol. 46, No. 5, May 2011, pp. 1147-1157.
50. M. Faisal, R. T. Schiffer, M. Flaska, S. A. Pozzi, D. D. Wentzloff, "A correlation-based pulse detection technique for gamma-ray/neutron detectors," Nuclear Instruments and Methods in Physics Research A: Accelerators, Spectrometers, Detectors and Associated Equipment, Oct. 2010.
51. R. T. Schiffer, M. Flaska, S. A. Pozzi, S. Carney, D. D. Wentzloff, "A scalable FPGA-based digitizing platform for radiation data acquisition," Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, Oct. 2010.
52. A. P. Chandrakasan, F. S. Lee, D. D. Wentzloff, V. Sze, B. P. Ginsburg, P. P. Mercier, D. C. Daly, R. Blazquez, "Low-Power Impulse UWB Architectures and Circuits," Proceedings of the IEEE, Vol. 97, No. 2, Feb. 2009, pp. 332-352.
53. D. D. Wentzloff, A. P. Chandrakasan, "Gaussian Pulse Generators for Subbanded Ultra-Wideband Transmitters," IEEE Transactions on Microwave Theory and Techniques (TMTT), Vol. 54, No. 4, Apr. 2006, pp. 1647-1655.
54. D. D. Wentzloff, R. Blazquez, F. S. Lee, B. P. Ginsburg, J. Powell, A. P. Chandrakasan, "System Design Considerations for Ultra-Wideband Communication," IEEE Communications Magazine, vol. 43, no. 8, Aug. 2005, pp. 114-121.
55. B. H. Calhoun, D. C. Daly, N. Verma, D. F. Finchelstein, D. D. Wentzloff, A. Wang, S. Cho, A. P. Chandrakasan, "Design Considerations for Ultra-Low Energy Wireless Microsensor Nodes," IEEE Transactions on Computers, Vol. 54, No. 6, June 2005, pp. 727-740.

Conference Papers

1. Kyumin Kwon and David Wentzloff, "Synthesizable ADPLL Generator: From Specification to GDS," IEEE International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design (SMACD), July 2023. **Best Paper Award.**
2. Li-Yu Chen and David Wentzloff, "An Automated Framework for Switched-Capacitor Power Amplifier Implementation Verified in 65 nm CMOS," IEEE International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design (SMACD), July 2023.

3. K. Kwon and D. D. Wentzloff, "A 800 MHz Fully Synthesizable PLL with Calibration-Free Feedforward Noise Cancellation," 2023 Joint Conference of the European Frequency and Time Forum and IEEE International Frequency Control Symposium (EFTF/IFCS), 2023, pp. 1-4.
4. Y. K. Cherivirala, M. Saligane and D. D. Wentzloff, "An Open Source Compatible Framework to Fully Autonomous Digital LDO Generation," 2023 IEEE International Symposium on Circuits and Systems (ISCAS), 2023, pp. 1-5.
5. Christopher J. Lukas, Farah B. Yahya, Kuo-Ken Huang, Jim Boley, Daniel S. Truesdell, Jacob Breiholz; Atul Wokhlu, Kyle Craig, Jonathan K. Brown, Andrew Fitting, William Moore, Andy Shih, Alice Wang, Alain Gravel, David D. Wentzloff, Benton H. Calhoun, "15.2 A 2.19 μ W Self-Powered SoC with Integrated Multimodal Energy Harvesting, Dual-Channel up to -92dBm WRX and Energy-Aware Subsystem," 2023 IEEE International Solid- State Circuits Conference (ISSCC), San Francisco, CA, USA, 2023, pp. 238-240.
6. M. Moosavifar, Y. K. Cherivirala and D. D. Wentzloff, "A 320 μ W Receiver with -58dB SIR Leveraging a Time-Varying N-Path Filter," IEEE Radio Frequency Integrated Circuits Symposium (RFIC), Denver, CO, USA, 2022, pp. 303-306.
7. K. Kwon, O. Abdelatty and D. Wentzloff, "Open-Source Fully-Synthesizable ADPLL for a Bluetooth Low-Energy Transmitter in 12nm FinFET Technology," 2022 IEEE Radio Frequency Integrated Circuits Symposium (RFIC), Denver, CO, USA, 2022, pp. 155-158.
8. Kuo-Ken Huang, Jonathan K. Brown, Richard K. Sawyer, Christopher J. Lukas, Farah B. Yahya, Alice Wang, Nathan E. Roberts, Benton H. Calhoun, David D. Wentzloff, "ULP Receivers in Self-Powered Industrial IoT Applications: Challenges and Prospects," 2022 IEEE Custom Integrated Circuits Conference (CICC), Newport Beach, CA, USA, 2022, pp. 1-8.
9. M. Moosavifar, J. Im, T. Odelberg and D. Wentzloff, "A 110uW 2.5kb/s -103dBm-Sensitivity Dual-Chirp Modulated ULP Receiver Achieving -41dB SIR," 2022 IEEE International Solid- State Circuits Conference (ISSCC), San Francisco, CA, USA, 2022, pp. 402-404.
10. A. J. Jinia, T. E. Maurer, S. D. Clarke, H. -S. Kim, D. D. Wentzloff and S. A. Pozzi, "Special Nuclear Material Detection Using Trans-Stilbene and Artificial Neural Network," 2021 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), Piscataway, NJ, USA, 2021, pp. 1-3.
11. Milad Moosavifar; David Wentzloff, "A High-Efficiency Lens-Coupled 60GHz On-Chip Antenna Module for Millimeter-Scale Wireless Transmitters," International Conference on Electromagnetics in Advanced Applications (ICEAA), 2021
12. Trevor J. Odelberg; Jaeho Im; David D. Wentzloff, "A 2.1mW -109dBm NB-IoT Wake-Up Receiver," IEEE Radio Frequency Integrated Circuits Symposium (RFIC), June 2021.
13. Omar Abdelatty; Abdullah Alghaihab; Yaswanth K. Cherivirala; Sumanth Kamineni; Benton Calhoun; David D. Wentzloff, "A 300 μ W Bluetooth-Low-Energy Backchannel Receiver Employing a Discrete-Time Differentiator-Based Coherent GFSK Demodulation," IEEE Radio Frequency Integrated Circuits Symposium (RFIC), June 2021.
14. Milad Moosavifar; David Wentzloff, "Analysis of Design Trade-Offs in Ultra-Low-Power FSK Receivers for Phase-Based Ranging," IEEE Topical Conference on Wireless Sensors and Sensor Networks (WiSNeT), 2021.
15. J. Im, H. Kim, O. Abdelatty, D. D. Wentzloff, "A Fully Integrated 62-to-69GHz Crystal-Less Transceiver with 12 Channels Tuned by a Transmission-Line-Referenced FLL in 0.13 μ m BiCMOS," IEEE International Solid-State Circuits Conference (ISSCC), Feb. 2021.

16. K-K. Huang, J. K. Brown, N. Collins, R. K. Sawyer, F. B. Yahya, A. Wang, N. E. Roberts, B. H. Calhoun, D. D. Wentzloff, "A Fully-Integrated 2.7 μ W -70.2dBm-Sensitivity Wake-Up Receiver with Charge-Domain Analog Front-End, -16.5dB-SIR, FEC and Cryptographic Checksum," IEEE International Solid-State Circuits Conference (ISSCC), Feb. 2021.
17. Abbas J. Jinia; Kyle E. Laferty; Shaun D. Clarke; Hun-Seok Kim; David D. Wentzloff; Sara A. Pozzi, "Development of an Artificial Neural Network for Special Nuclear Material Detection in a Mixed Photon-Neutron Environment," IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), 2020.
18. T. Ajayi, S. Kamineni, Y. K. Cherivirala, M. Fayazi, K. Kwon, M. Saligane, S. Gupta, C.-H. Chen, D. Sylvester, D. Blaauw, R. Dreslinski, B. Calhoun, D. D. Wentzloff, "An Open-source Framework for Autonomous SoC Design with Analog Block Generation," IFIP/IEEE 28th International Conference on Very Large Scale Integration (VLSI-SOC), 2020.
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1. "Dual Chirp Modulation Scheme"
2. "Wake-Up Receiver For Narrowband IoT Applications"
3. "Systems And Methods For A Crystal-Less Bluetooth Low Energy Transceiver"
4. "Ultra Low Power Sensing Platform with Multimodal Radios,"
5. "Low Power High Gain Radio Frequency Amplifier For Sensor Apparatus."
6. "Quadrature Fully-Integrated Tri-Band GPS Receiver."
7. "Digital Quadrature Transmitter With Class-B I/Q Cell Sharing."

8. "A Low Power High Gain RF Amplifier Technique."
9. "Low-Power Receiver for FSK Back-Channel Embedded in 5.8GHz Wi-Fi OFDM Packets."
10. "A 12.1mW Quadrature Fully-Integrated Tri-Band GPS Receiver in 65nm CMOS."
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