Kye-Shin Lee

Work Address**:**

Dept. of Electrical & Computer Eng.
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Career Objective

Contribute in research and teaching for the area of analog and mixed signal integrated circuit design

Current Position (since Aug. 2016)

THE UNIVERSITY OF AKRON, Akron, OH
Associate Professor, Department of Electrical & Computer Engineering

Research Interest

Analog & Mixed Signal Integrated Circuits
Low power & High Speed Analog-to-Digital Converters & Digital-to-Analog Converters
Display Drivers & Touch Sensors
Circuit and System Modeling, Characterization, and Testing

Education

Ph.D. in Electrical Engineering, University of Texas at Dallas, Richardson, TX, Aug. 2005
Dissertation**:** A 2-channel time-interleaved 2nd order $\Sigma\Delta$ modulator in 0.18um CMOS
Advisor**:** Professor Franco Maloberti

M.S. in Electrical Engineering, Texas A&M University, College Station, TX, Aug. 2002
Thesis**:** A 1.8V 2-2 cascade sigma-delta modulator for high speed applications

B.S. in Electrical Engineering, Korea University, Seoul, Korea, Feb. 1992

Professional Experience

Jan. 2010   Aug. 2016: Department of Electrical & Computer Engineering, The University of Akron
Assistant Professor

Feb. 2009

Classes Taught

Physical Electronics (Junior level)
Electronic Design (Junior level)
VLSI Design (Junior level)
VLSI Circuits and Systems (Senior/1st year Gradate level)
Analog IC Design, Senior/1st year Gradate level
Analog Signal Processing Circuits and Systems (Graduate level)
Data Converters (

10. T. Nagavalli, S. J. Lee, **K. S. Lee** Smart water quality sensor platform for hydroponic plant growing applications *J. Multimedia Inf. Syst., vol. [a], pp. 215-226, Sept. 2016.*

11. S. J. Lee, **K. S. Lee**, and B. G. Kim Binary image based fast DoG filter using zero dimensional convolution

30. **K. S. Lee** -delta modulator *J. of Semiconductor Technology and Science*, vol. 9, pp. 233 239, Dec. 2009

31. **K. S. Lee**, S. Kwon, and -interleaved $\Sigma\Delta$ modulator for broadband Applications *IEEE Journal of Solid State Circuits*, vol. 42, pp. 1206-1215, Jun. 2007

32. **K. S. Lee** mino free 4-path time-interleaved second order sigma-delta Modulator *Analog Integrated Circuits and Signal Processing*, vol. 43, pp. 225 235, Jun. 2005

33. **K. S. Lee** 2, *IEEE Trans. on Circuits and Systems-II*, vol. 52, pp. 194 -198, April 2005

34. **K. S. Lee** -interleaved sigma-delta modulator using output prediction scheme *IEEE Trans. on Circuits and Systems-II*, vol. 51, pp. 537-541, Oct. 2004

Conference proceedings:

1. M. Nazari and **K. S. Lee** Low power and area efficient fully on-chip ECG motion artifact removal circuitry utilizing band pass filter based R-peak detection scheme *IEEE MWSCAS*, East Lansing, MI, Aug. 2021, pp. 916-920.

2. M. Akbari, M. Nazari, O. Hashemipour, and **K. S. Lee** Energy-efficient and area-efficient switching schemes for SAR ADCs *IEEE MWSCAS*, Dallas, TX, Aug. 2019, pp. 97-100.

3. M. Nazari and **K. S. Lee** Fully analog baseline wander elimination circuit for real-time ambulatory ECG recording *IEEE MWSCAS*, Dallas, TX, Aug. 2019, pp. 33-36.

4. Z. Hoseini and **K. S. Lee** -mode SAR ADC with capacitor flipping bit- *IEEE MWSCAS*, Windsor, Canada, Aug. 2018, pp. 404-407.

5. S. R. Samireddy, J. Carletta, and **K. S. Lee** *IEEE MWSCAS*, Boston, MA, Aug. 2017, pp. 68-71.

6. M. Asgari, **K. S. Lee** - *IEEE MWSCAS*, Boston, MA, Aug. 2017, pp. 1049-1052.

7. A. Kurtoglu, J. Carletta, and **K. S. Lee**, -range linear wireless sensor *IEEE MWSCAS*, Boston, MA, Aug. 2017, pp. 1163-1167.

8. T. Latiff, N. Ida, **K. S. Lee** urrent and vibration based detection system for lightning *IEEE MWSCAS*, Boston, MA, Aug. 2017, pp. 1272-1275.

9. M. Asgari and **K. S. Lee** -ended chopper-stabilized ISFET amplifier for continuous pH measurement applications *IEEE MWSCAS*, Denver CO, Aug. 2015.

10. N. Ravikumar, Z. Hoseini, **K. S. Lee**, S. I. -bit time mode hybrid DAC with current settling error compensation *IEEE MWSCAS*, Denver CO, Aug. 2015.

11. V. Ariyarathna, S. Kulasekera, A. Madanayake, and **K. S. Lee** -beam 4GHz microwave apertures using current mode DFT approximation on 65nm CMOS, *IEEE IMS*, Phoenix AZ, May 2015.

12. R. Beak, K. S. Jang, B. G. Kim, and **K. S. Lee** -awareness based fast block motion estimation algorithm for H.264/AVC encoding system in Lecture Notes for *Computer Science and Its Application*, Springer, Jan. 2015, pp. 155-161.

13. Y. M. Lee and **K. S. Lee** a-delta modulator based capacitive type touch sensor *KIEE Symposium*, Daejeon, Korea, Dec. 2014, pp.113-114.

14. M. Asgari, V. Maduri, **K. S. Lee** sensing electrode pair *KIEE Symposium*, Daejeon, Korea, Dec. 2014, pp.135-138.

15. Z. Hoseini, **K. S. Lee**, and B. G.   -digital smart integrated Circuits   in Lecture Notes for *Frontier and Innovation in Future Computing and Communications*, Springer, Jan. 2014, pp. 289-296.

16. **K. S. Lee**,   igurable switched-capacitor resistor for proximity touch sensor readout circuits   *Euro Display 2013*, London UK, Sept. 2013, pp. 139-143.

17. Z. Hoseini and **K. S. Lee**,   -bit 500kS/s semi-digital cyclic ADC with time-mode residue voltage Generation   *IEEE MWSCAS*, Columbus OH, Aug. 2013, pp. 832-835.

Instruments Sym. on Test, Richardson TX, Aug. 2007

35. **K. S. Lee**   -channel time-interleaved multi-bit $\Sigma\Delta$ modulator with 80dB SNR and 85dB DR for ADSL   *ISSCC Dig. Tech. Papers*, vol. 49, San Francisco, CA, Feb. 2006, pp. 70-71

36. **K. S. Lee**   -path second order time-interleaved sigma-delta Modulator   *IEEE Int. Sym. Circuits and Systems*, vol. 1, Vancouver, Canada, May 2004, pp. 473-476

37. **K. S. Lee**