

Haibo Wang

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Professional Preparation:

Tsinghua University	Beijing, China	Electrical Engineering	B. Eng. 7/92
Nanyang Technological University	Singapore	Electrical Engineering	M. Eng. 4/97
University of Arizona	Tucson, AZ	Electrical and Computer Engineering	Ph.D. 5/02

Appointments:

8/02 – present	School of Electrical, Computer, and Biomedical Engineering, Southern Illinois University (SIU), Carbondale, IL 62901, 8/02-6/07, Assistant Professor, 7/07-6/13, Associate Professor, 7/13-present, Professor
01/97 – 05/02	Research Assistant, Department of Electrical and Computer Engineering, University of Arizona, Tucson, 85721
05/02 – 08/02	Intern, Wireless Integration Technology Center, Motorola, Inc., Libertyville, IL 60030
06/98 – 08/98	Intern, Rockwell Semiconductor Systems, Inc., San Diego, CA 92121
09/96 – 12/96	IC Design Engineer, Siemens Components Pte. Ltd., Singapore, 349249

Awards: NSF career award 2005, Best paper awards at IEEE SOCC 2014, ISQED 2007, and MIXDES 2001.

Synergistic Activities:

1. Technical Program committee, IEEE/ACM International Conference on Computer Aided Design, 2022-2026
2. Technical Program committee, IEEE Computer Society Annual Symposium on VLSI, 2019-2022
3. Technical Program Committee of IEEE International System-on-Chip Conference, 2015-2019, Track co-chair 2016-2018
4. Technical Program Committee of International Symposium of Quality Electronic Design since 2007-2013, San Jose, CA
5. Chair of Technical Program Committee, 2013 Interdisciplinary Engineering Design Education Conference, March 4-5, 2013, Santa Clara, CA, USA

Patents:

1. Stefan Leitner, Haibo Wang and Spyros Tragoudas, "Systems and Methods for Compressive Image Sensor Techniques Utilizing Sparse Measurement Matrices," US Pat. No. 10,240,910, March, 26, 2019
2. M. Mohanty, A. Mahajan, H. Wang, and B. Zhang, "Automated System for Coal Spiral," Patent No.: US9126205B2, Sep. 8, 2015.

Selected Publications:

1. Ashish Mahanta and Haibo Wang, "Abnormality Detection Using Power Rising and Descending Signature (PRIDES)," *ACM Transactions on Embedded Computing Systems*, January 2025.
2. Ashish Mahanta and Haibo Wang, "Embedding Power Signature Generation into Low Dropout Voltage Regulators for Enhancing IoT Security," *2024 IEEE Computer Society Annual Symposium on VLSI (ISVLSI)*, Knoxville, TN, USA, 2024, pp. 167-172.
3. Ashish Mahanta and Haibo Wang, "PRIDES: A Power Rising Descending Signature for Improving IoT Security," *2023 IEEE 36th International System-on-Chip Conference (SOCC)*, Santa Clara, CA, USA, 2023
4. B. R. Paudel, D. Senarathna, H. Wang, S. Tragoudas, Y. Hu and S. Jiang, "Predicting YOLO Mis-detection by Learning Grid Cell Consensus," *2021 20th IEEE International Conference on Machine Learning and Applications (ICMLA)*, 2021, pp. 643-648
5. M. K. Shuvo, D. E. Thompson and H. Wang, "MSB-First Distributed Arithmetic Circuit for Convolution Neural Network Computation," *2020 IEEE 63rd International Midwest Symposium on Circuits and Systems (MWSCAS)*, Springfield, MA, USA, 2020, pp. 399-402
6. Abhilash Karnatakam Nagabhushana and Haibo Wang, "Accelerating low-voltage SAR ADC operation via comparator timing assisted and circuit adaptive tuning techniques," in *IET Circuits, Devices & Systems*, vol. 14, no. 3, pp. 294-302, 5 2020
7. Haibo Wang, Abhilash Karnatakam Nagabhushana and Stefan Leitner, "Exploiting uncertain timing information in time-based SAR ADCs," in *IET Circuits, Devices & Systems*, vol. 14, no. 3, pp. 390-397, 5 2020
8. Stefan Leitner and Haibo Wang, "Digital LDO modelling techniques for performance estimation at early design stage," in *IET Circuits, Devices & Systems*, vol. 12, no. 5, pp. 655-661, 2018
9. Stefan Leitner, Haibo Wang and Spyros Tragoudas, "Design of Scalable Hardware-Efficient Compressive Sensing Image Sensors," *IEEE Sensors Journal*, vol. 18, no. 2, pp. 641-651, 2018.
10. Yao Wang, Liang Rong, Haibo Wang, and Guangjun Wen, "One-Step Sneak-Path Free Read Scheme for Resistive Crossbar Memory," *ACM Journal on Emerging Technologies in Computing Systems*, Vol. 13, No. 2, February 2017.
11. Stefan Leitner, Haibo Wang, and Spyros Tragoudas, "Design Techniques for Direct Digital Synthesis Circuits with Improved Frequency Accuracy Over Wide Frequency Ranges," *Journal of Circuits, Systems, and Computers*, Vol. 26, No. 2, 2017
12. Stefan Leitner and Haibo Wang, "Current Compensation Techniques for Low-voltage High-performance Current Mirror Circuits," *Analog Integrated Circuits and Signal Processing*, Vol. 88, No. 1, July, 2016, pp. 79-88.
13. Stefan Leitner, Paul West, Chao Lu and Haibo Wang, "Digital LDO Modeling for Early Design Space Exploration," *Proc. 29th IEEE International System on Chip Conference*, Seattle, WA, September 6-9, 2016, pp. 7-12.
14. Abhilash Karnatakam Nagabhushana and Haibo Wang, "A Comparator Timing Assisted SAR ADC Technique with Reduced Conversion Cycles," *Proc. 29th IEEE International System on Chip Conference*, Seattle, WA, September 6-9, 2016, pp. 200-205.
15. Abhilash Nagabhushana and Haibo Wang, "A Novel Time and Voltage Based SAR ADC Design With Self-Learning Technique," *Proc. 53th Design Automation Conference*, Austin, TX, June 5-9, 2016