



教职员工

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林龙扬 助理教授

个人简介

林龙扬博士, 于2018年获得新加坡国立大学博士学位, 2018-2021年于新加坡国立大学任博士后研究员, 2021年5月加入南方科技大学深港微电子学院。林龙扬博士长期从事超低功耗、高效率、超大规模集成电路设计, 在先进CMOS工艺成功进行了超过10次流片, 积累了丰富的芯片设计经验。

个人主页

林龙扬博士累计发表论文超过20篇, 包括以第一作者多次将研究成果发表在集成电路设计权威期刊 IEEE Journal of Solid-State Circuits 以及会议“芯片奥林匹克” ISSCC上, 已出版专著1本, 专利申请2项。他还是国际知名期刊 IEEE Transactions on Very Large Scale Integration (VLSI) Systems 和 IET The Journal of Engineering 的副编辑。

招聘信息

林龙扬博士课题组常年招聘博士后、科研助理, 招收博士生、硕士生、本科实习生, 有意应聘者请将简历(格式PDF) 发送至以下邮箱, 以“招聘岗位_应聘者姓名”为题。
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教育经历

2018年, 新加坡国立大学, 博士学位
2013年, 瑞典隆德大学, 硕士学位
2011年, 深圳大学/瑞典于默奥大学, 双学士学位

工作经历

2021年5月至今, 南方科技大学, 助理教授
2018年8月至2021年4月, 新加坡国立大学, 博士后研究员
2017年5月至2017年8月, 意大利都灵理工大学, 访问学者
2013年12月至2014年8月, 新加坡国立大学, 研究工程师

研究简介

超低功耗数字集成电路设计
高效能人工智能处理器设计
多传感器融合芯片设计
集成电路硬件安全

所获荣誉

ISSCC Demonstration Session Certificate of Recognition, 2020
IEEE SSCS Singapore Chapter Award, 2017 & 2018
ISSCC Student Travel Grant Award, 2017

代表文章

International Journals

[J1] L. Lin, S. Jain, M. Alioto, "Sub-nW Microcontroller with Dual-mode Standard Cells and Self-startup for Battery-Indifferent Sensor Nodes", IEEE Journal of Solid-State Circuits (JSSC), vol. 56, no. 5, pp. 1618-1629, May 2021, doi: 10.1109/JSSC.2020.3038115.

[J2] L. Fassio, F. Settimo, L. Lin, R. De Rose, M. Lanuzza, F. Crupi, M. Alioto, "A Robust, High-Speed and Energy-Efficient Ultralow-Voltage Level Shifter," in IEEE Transactions on Circuits and Systems II: Express Briefs, early access, doi: 10.1109/TCSII.2020.3033253.

[J3] S. Jain, L. Lin, M. Alioto, "Broad-Purpose In-Memory Computing for Signal Monitoring and Machine Learning Workloads," in IEEE Solid-State Circuits Letters, vol. 3, pp. 394-397, 2020, doi: 10.1109/LSSC.2020.3024838.

[J4] S. Jain, L. Lin, M. Alioto, "Drop-In Energy-Performance Range Extension in Microcontrollers Beyond VDD Scaling", in IEEE Journal of Solid-State Circuits (JSSC), vol. 55, no. 10, pp. 2670-2679, Oct. 2020, doi: 10.1109/JSSC.2020.3005778.

[J5] L. Lin, S. Jain, M. Alioto, "Integrated Power Management for Battery-Indifferent Systems with Ultra-Wide Adaptation down to nW", in IEEE Journal of Solid-State Circuits (JSSC), vol. 55, no. 4, pp. 967-976, April 2020, doi: 10.1109/JSSC.2019.2959742.

[J6] S. Jain, L. Lin, M. Alioto, "Automated Design of Reconfigurable Micro-Architectures for Accelerators under Wide Voltage Scaling", in IEEE Transactions on Very Large Scale Integration (VLSI) Systems, vol. 28, no. 3, pp. 777-790, March 2020, doi: 10.1109/TVLSI.2019.2950959.

[J7] L. Lin, S. Jain, M. Alioto, "Reconfigurable Clock Networks for Wide Voltage Scaling," in IEEE Journal of Solid-State Circuits (JSSC), vol. 54, no. 9, pp. 2622-2631, Sept. 2019, doi: 10.1109/JSSC.2019.2925269.

[J8] O. Aiello, P. Crovetto, L. Lin, M. Alioto, "A pW-Power Hz-Range Oscillator Operating with a 0.3V-1.8V Unregulated Supply", in IEEE Journal of Solid-State Circuits (JSSC), vol. 54, no. 5, pp. 1487-1496, May 2019, doi: 10.1109/JSSC.2018.2886336.

[J9] S. Jain, L. Lin, M. Alioto, "Dynamically Adaptable Pipeline for Energy-Efficient Microarchitectures under Wide Voltage Scaling," in IEEE Journal of Solid-State Circuits (JSSC), vol. 53, no. 2, pp. 632-641, Feb. 2018, doi: 10.1109/JSSC.2017.2768406.

[J10] S. Jain, L. Lin, M. Alioto, "Design-Oriented Energy Models for Wide Voltage Scaling down to the Minimum Energy Point," in IEEE Transactions on Circuits and Systems I: Regular Papers (TCAS-I), vol. 64, no. 12, pp. 3115-3125, Dec. 2017, doi: 10.1109/TCSI.2017.2736540.

International Conferences

[C1] L. Lin, S. Jain, M. Alioto, "Multi-Sensor Platform with Five-Order-of-Magnitude System Power Adaptation down to 3.1nW and Sustained Operation under Moonlight Harvesting", 2020 Symposium on VLSI Circuit, Honolulu, HI, USA, 2020, pp. 1-2, doi: 10.1109/VLSICircuits18222.2020.9162898.

[C2] L. Fassio*, L. Lin*, R. Rose, M. Lanuzza, F. Crupi, M. Alioto, "A 0.25-V, 5.3-pW Voltage Reference with 25-μV/oC Temperature Coefficient, 140μV/V Line Sensitivity and 2,200-μm² Area in 180nm", 2020 Symposium on VLSI Circuit, Honolulu, HI, USA, 2020, pp. 1-2, doi: 10.1109/VLSICircuits18222.2020.9162872. (*equally credited authors)

[C3] J. Li, Y. Dong, J. Park, L. Lin, T. Tang, M. Zhang, H. Wu, L. Zhang, J. S. Y. Tan, J. Yoo "Human-Body-Coupled Power-Delivery and Ambient-Energy-Harvesting ICs for a Full-Body-Area Power Sustainability", 2020 IEEE International Solid-State Circuits Conference - (ISSCC), San Francisco, CA, USA, 2020, pp. 514-516, doi: 10.1109/ISSCC19947.2020.9063042.

[C4] S. Jain, L. Lin, M. Alioto, "Drop-In Energy-Performance Range Extension in Microcontrollers Beyond VDD Scaling", 2019 IEEE Asian Solid-State Circuits Conference (A-SSCC), Macau, China, 2019, pp. 125-128, doi: 10.1109/A-SSCC47793.2019.9056919.

[C5] L. Lin, S. Jain, M. Alioto, "Integrated Power Management and Microcontroller for Ultra-Wide Power Adaptation down to nW", 2019 Symposium on VLSI Circuit, Kyoto, Japan, 2019, pp. C178-C179, doi: 10.23919/VLSIC.2019.8778085.

[C6] L. Lin, S. Jain, M. Alioto, "A 595pW 14pJ/cycle Microcontroller with Dual-mode Standard Cells and Self-startup for Battery-Indifferent Distributed Sensing", 2018 IEEE International Solid-State Circuits Conference - (ISSCC), San Francisco, CA, 2018, pp. 44-46, doi: 10.1109/ISSCC.2018.8310175.

[C7] L. Lin, K. Trinh Quang, M. Alioto, "Transistor Sizing Strategy for Simultaneous Energy-Delay Optimization in CMOS Buffers", 2017 IEEE International Symposium on Circuits and Systems (ISCAS), Baltimore, MD, 2017, pp. 1-4, doi: 10.1109/ISCAS.2017.8050997.

[C8] L. Lin, S. Jain, M. Alioto, "Reconfigurable Clock Networks for Random Skew Mitigation from Sub-Threshold to Nominal Voltage", 2017 IEEE International Solid-State Circuits Conference - (ISSCC), San Francisco, CA, 2017, pp. 440-441, doi: 10.1109/ISSCC.2017.7870450.

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