

# QI XU

Lecturer ◇ Department of Electronic Science and Technology  
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## RESEARCH INTERESTS

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- Physical Design Automation, Design for Reliability for 3-D Integrated Circuits, Machine Learning

## EDUCATION

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**University of Science and Technology of China, Hefei, China** *Sep. 2012 – Jun. 2018*  
Ph.D., Department of Electronic Science and Technology

**AnHui University, Hefei, China** *Sep. 2008 – Jun. 2012*  
M.S., Department of Microelectronics

## EXPERIENCE

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**Hefei University of Technology, Hefei, China** Jul. 2018 – present  
Lecturer, Department of Electronic Science and Technology

**Southern University of Science and Technology, Shenzhen, China** Jul. 2019 – Sep. 2019  
Visiting Scholar, Department of Computer Science and Engineering

**The Chinese University of Hong Kong, NT, Hong Kong** Sep. 2017 – Nov. 2017  
Research Assistant, Department of Computer Science and Engineering

## SELECTED AWARDS AND HONORS

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Outstanding Doctoral Dissertation	USTC	2018
Excellent Graduate Student	USTC	2018
National Scholarship	MOE of PRC	2010

## PUBLICATIONS

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### Journal Papers

- [J8] **Qi Xu**, Song Chen, Hao Geng, Bo Yuan, Bei Yu, Feng Wu, Zhengfeng Huang, “Fault Tolerance in Memristive Crossbar-Based Neuromorphic Computing Systems”, *Integration, the VLSI Journal*, vol. 70, pp. 70-79, 2020.
- [J7] **Qi Xu**, Hao Geng, Song Chen, Bei Yu, Feng Wu, “Memristive Crossbar Mapping for Neuromorphic Computing Systems on 3D IC”, *ACM Transactions on Design Automation of Electronic Systems (TODAES)*, vol. 25, no. 1, pp. 8:1-8:19, 2019.
- [J6] Tianming Ni, Hao Chang, Tai Song, **Qi Xu\***, Zhengfeng Huang, Huaguo Liang, et.al, “Non-intrusive Online Distributed Pulse Shrinking Based Interconnect Testing in 2.5D IC”, *IEEE Transactions on Circuits and Systems II: Express Briefs (TCAS-II)*, early access, 2019.
- [J5] Song Chen, Mengke Ge, Zhigang Li, Jinglei Huang, **Qi Xu\***, Feng Wu, “Generalized Fault-Tolerance Topology Generation for Application Specific Network-on-Chips”, *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, vol. 39, no. 6, pp. 1191-1204, 2020.
- [J4] Song Chen, **Qi Xu\***, Bei Yu, “Adaptive 3D-IC TSV Fault Tolerance Structure Generation”, *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, vol. 38, no. 5, pp. 949-960, 2019.
- [J3] **Qi Xu**, Song Chen, Xiaodong Xu, Bei Yu, “Clustered Fault Tolerance TSV Planning for 3D Integrated Circuits”, *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, vol. 36, no. 8, pp. 1287-1300, 2017.
- [J2] **Qi Xu**, Song Chen, “Fast Thermal Analysis for Fixed-outline 3D Floorplanning”, *Integration, the VLSI Journal*, vol. 59, pp. 157-167, 2017.
- [J1] **Qi Xu**, Song Chen, Bin Li, “Combining the Ant System Algorithm and Simulated Annealing for 3D/2D Fixed-Outline Floorplanning”, *Applied Soft Computing*, vol. 40, pp. 150-160, 2016.

## Conference Papers

- [C5] Junpeng Wang, **Qi Xu\***, Bo Yuan, Song Chen, Bei Yu, Feng Wu, “Reliability-Driven Neural Network Training for Memristive Crossbar-Based Neuromorphic Computing Systems”, IEEE International Symposium on Circuits and Systems (**ISCAS**), pp. 1-4, Virtula Event, Spain, Oct., 2020.
- [C4] Mengke Ge, **Qi Xu**, Huajie Ruan, Xiaobing Ni, Song Chen, Yi Kang, “Synthesizing A Generalized Brain-inspired Interconnection Network for Large-scale Network-on-chip Systems”, ACM Great Lakes Symposium on VLSI (**GLSVLSI**), pp. 1-6, Virtual Event, China, Sep., 2020.
- [C3] **Qi Xu**, Song Chen, Bei Yu, Feng Wu, “Memristive Crossbar Mapping for Neuromorphic Computing Systems on 3D IC”, ACM Great Lakes Symposium on VLSI (**GLSVLSI**), pp. 1-4, Chicago, USA, May, 2018.
- [C2] Xiaodong Xu, **Qi Xu**, Jinglei Huang, Song Chen, “An Integrated Optimization Framework for Partitioning, Scheduling and Floorplanning on Partially Dynamically Reconfigurable FPGAs”, ACM Great Lakes Symposium on VLSI (**GLSVLSI**), pp. 403-406, Alberta, Canada, May, 2017.
- [C1] **Qi Xu**, Song Chen, Bin Li, “Ant system based 3D fixed-outline floorplanning”, IEEE International Conference on Solid-State and Integrated Circuit Technology (ICSICT), pp. 356-359, Guilin, Oct. 2014.

## PROFESSIONAL SERVICE

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### Journal Reviewer

- ACM Transaction on Design Automation of Electronic Systems (TODAES)
- IEEE Transaction on Computer-Aided Design of Integrated Circuits and Systems (TCAD)
- Integration, the VLSI Journal
- Microprocessors and Microsystems

### Conference Reviewer

- ACM/IEEE Design Automation Conference (DAC)
- IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC)

## COURSES TAUGHT

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- Digital Logic Circuit, 2019, 2020
- Circuit and Electronic System, 2019

## TECHNICAL SKILLS

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**Languages**      C/C++, Python, MATLAB, L<sup>A</sup>T<sub>E</sub>X