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Ph.D. Program in Micro- and Nano-Electronics

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Handcrafting Analog Design – in an age of extensive digital, AI, and agile integration

Speaker: Qiang Li

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**September 16th, 11 AM
Magenta Seminar Room**

Abstract:

With the continuous evolvement of semiconductor technologies and circuit design techniques, the state-of-the-art electronic designs employ extensive digital techniques, i.e., digital signal processing, design automation, artificial intelligence, etc. Circuit-system co-design involves higher-level and agile integrations at chip, wafer, and/or package levels, e.g., 3D-IC, chiplets, etc. In this era, nevertheless, analog and mixed-signal design are still (and increasingly) indispensable. As the world is always analog – with continuous time and amplitude – the handcrafted analog/mixed-signal circuits serve as the interface to the real-world problems and the approach to extreme performance, including intelligence which attracts extensive research interests recently. This talk discusses the challenges and opportunities of analog and mixed-signal design in this era with demonstrated design examples for data converters, biomedical/sensor interfaces, and edge AI processors.

Bio:

Qiang Li received the B. Eng. in Electrical Engineering from the Huazhong University of Science and Technology (HUST), Wuhan, China and the Ph.D. in Electronic Engineering from the Nanyang Technological University (NTU), Singapore, in 2001 and 2007, respectively. He has been working on analog/RF and mixed-signal circuits in both academia and industry, holding positions of Engineer, Project Leader & Technical Consultant in Singapore. He is currently a full Professor at the University of Electronic Science and Technology of China (UESTC), heading the UESTC Institute of Integrated Circuits and Systems. His research interests include low-voltage and low-power analog/RF circuits, data converters, mixed-mode circuits for biomedical and sensor interfaces, and analog computing. Prof. Li serves/served as the Distinguished Lecturer of the IEEE Solid-State Circuits Society (SSCS) and on the Board of Governors (BoG) of IEEE Circuits and Systems Society (CASS). He served/serves as a member of the Technical Program Committee of a series of international conferences including ISSCC, CICC, ASSCC, ESSCIRC, DAC, TPC Chair of APCCAS'2018, the Guest Editor of IEEE Transactions on Circuits and Systems I: Regular Papers (TCAS-I), and the Founding Chair of ICAC.

Organizer

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Seminar in English

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