

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

Faculty of Engineering

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Area: Microelectronic Technologies and Devices

Host: Dr. Annie Kumar

TOPIC	:	Ultra-Scaled GeSn Nanowire FETs For High Performance Logic Applications
SPEAKER	:	Ms. Kang Yuye Graduate Student, ECE Dept, NUS
DATE	:	Friday, 23 April 2021
TIME	:	10.00AM to 10.30AM
WEBINAR	:	Join Zoom Meeting https://nus-sg.zoom.us/j/2628877853?pwd=V3dzbmxLWVZyMjBIMEVrYnpSSlIFdz09 Meeting ID: 262 887 7853 Password: 734329

ABSTRACT

Over past few decades, the shrinking of MOSFETs has been extensively explored to continue the Moore's Law on the CMOS technology platform. Meanwhile, strained channel material, high-k/metal gate, as well as 3D device architectures have entered historical arena and been receiving a lot of attention. As transistors' dimensions become smaller and smaller, short channel effects are inevitable. 3D MOSFETs with multi-gate structures have advantages including good control of short channel effects as well as superior scalability using conventional large-scale manufacturing processes as compared with planar devices. Here, we fabricated GeSn GAAFETs with ultra-scaled wire width of sub-5 nm using the conventional top-down approach. Simulation studies of quantum confinement effects on such scaled GAAFETs have also been performed. The realization of high performance and the physical investigations in this work provide valuable insights for future ultra-scaled Ge-based 3D MOSFETs.

BIOGRAPHY

Kang Yuye is currently a PhD student in Electrical and Computer Engineering Department, National University of Singapore. Her research mainly focuses on Ge-based logic devices.

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