SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
Faculty of Engineering
Website: https://www.eng.nus.edu.sg/ece/

Area: Integrated Circuits & Embedded Systems

Host: Assoc Prof Jerald Yoo

IEEE Solid-State Circuit Society (SSCS) Distinguished Lecture

TOPIC	**:**	**Millimeter-Wave Phased-Array Transceiver Design for 5G New Radio**
SPEAKER	**:**	**Prof Kenichi Okada,** **Electrical and Electronic Engineering,** **Tokyo Institute of Technology**
DATE	**:**	**11 December 2019, Wednesday**
TIME	**:**	**5pm to 6pm**
VENUE	**:**	**E5-02-32, Engineering Block E5, Faculty of Engineering, NUS**

ABSTRACT

The wireless communication is one of the key technologies for realizing the future smart society. The conventional omni-directional wireless communication using microwave has been studied so far, and now the directional wireless communication using millimeter-wave (30-300GHz) is opening a new technology field of communication. The directional wireless communication using the millimeter-wave spectrum can accept spatial co-existence and multiplexing as well as use of wide frequency bandwidth. In this presentation, a millimeter-wave CMOS phased-array transceiver design is explained about phased-array architectures, phase shifters, power amplifiers, phase/gain calibration, measurement techniques, etc. The talk concludes with a discussion on future directions of millimeter-wave wireless communication, based on Shannon and Friis equations.

BIOGRAPHY

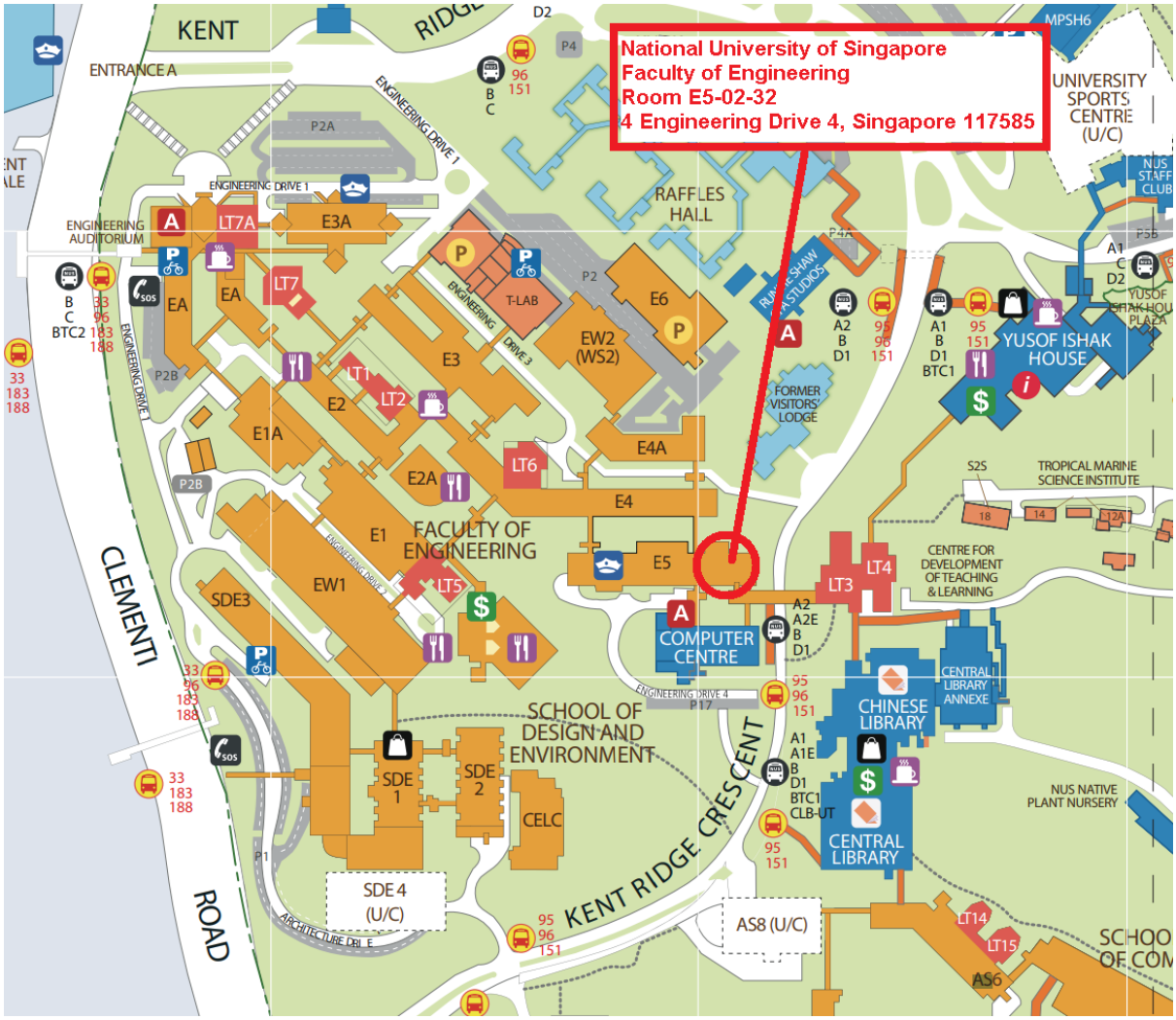
Kenichi Okada is a Professor of Electrical and Electronic Engineering at Tokyo Institute of Technology. He received the B.E., M.E., and Ph.D. degrees in Communications and Computer Engineering from Kyoto University, Kyoto, Japan, in 1998, 2000, and 2003, respectively. From 2000 to 2003, he was a Research Fellow of the Japan Society for the Promotion of Science in Kyoto University. From 2003 to 2007, he was an Assistant Professor at the Precision and Intelligence Laboratory, Tokyo Institute of Technology, Yokohama, Japan. From 2007 to 2019, he was an Associate Professor, and since 2019, he has been a Full Professor in the Department of Physical Electronics and then the Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan. He has authored or co-authored more than 400 journal and conference papers. His current research interests include millimeter-wave CMOS wireless transceivers for 20/28/39/60/77/79/100/300GHz for WiGig, 5G, satellite and future wireless system, digital PLL, synthesizable PLL, atomic clock, and ultra-low-power wireless transceivers for Bluetooth Low-Energy, and Sub-GHz applications.

Prof. Okada is a member of the IEEE, the Institute of Electronics, Information and Communication Engineers (IEICE), the Information Processing Society of Japan (IPSJ), and the Japan Society of Applied Physics (JSAP). He received the Ericsson Young Scientist Award in 2004, the A-SSCC Outstanding Design Award in 2006 and 2011, the ASP-DAC Special Feature Award in 2011 and Best Design Award in 2014 and 2015, JSPS Prize in 2014, Suematsu Yasuharu Award in 2015, MEXT Prizes for Science and Technology in 2017, and more than 40 other international and domestic awards. He is/was a member of the technical program committees of ISSCC, VLSI Circuits, and ESSCIRC, and he also is/was Guest Editors and an Associate Editor of IEEE Journal of Solid-State Circuits.

Location and Directions:

National University of Singapore
Faculty of Engineering
Block E5, Room E5-02-32
4 Engineering Drive 4, Singapore 117585

https://goo.gl/maps/PqLFGCGvfmUi72PZ7 (Link to Google Map)



To get there:

Parking: Park at P2A or P2 (shown above)

By Bus: #95, #96 or #151, take off at Information Technology (ID 16189)

By MRT: Kent Ridge Station, take NUS shuttle bus A1 to Information Technology (the shuttle runs every 15-20 min)