

Joint CQSE & NCTS Special Seminar

2022
Nov. 25, Friday

TIME Nov. 25, 2022, 2:30~3:30pm
TITLE Integrated Quantum Photonics
SPEAKER Prof. Ming Chang Lee (Department of Electrical Engineering,
National Tsing Hua University)
PLACE Rm104, Chin-Pao Yang Lecture Hall,
CCMS & New Physics Building, NTU
ONLINE <https://nationaltaiwanuniversity-zbn.my.webex.com/>



Abstract:

Integrated optoelectronics and photonics are the key technology platform for developing large-scale optical systems for various optical applications. For example, multi-channel integrated transceivers based on Si photonics are recently demonstrated for over 800 Gbps data transmission aiming at data centers, high-performance cluster computers, and cloud servers.

Meanwhile, these technologies are also exploited for implementing large-scale quantum photonics circuits. Several key players of quantum optics companies, like PsiQuantum and Xanadu, are developing their owned integrated quantum photonic chips by leveraging advanced CMOS technologies. In this talk, I will introduce the basic building blocks of integrated photonics and show the opportunities and challenges in applications of quantum information processing.

Biography Brief:

Prof. Ming-Chang M. Lee received his Ph.D. degree in electrical engineering from University of California at Los Angeles (UCLA) in 2005. During 1996-1998, he was a supervisor at Fab 5 in Taiwan Semiconductor Manufacturing Company (TSMC). In 2005, he joined the faculty of the Institute of Photonics Technologies (IPT) and Department of Electrical Engineering, National Tsing Hua University (NTHU), Taiwan. Currently, he is a professor in IPT. During 2016-2019, he was the R&D Director at Intelligent Application MicroSystem Division, Industrial Technology Research Institute (ITRI), Taiwan, for the development of Si photonics and optoelectronic devices. His

research interests include photonic MEMS, linear and nonlinear silicon photonics, high-speed Group IV optoelectronics, microwave photonics, nanophotonics and integrated quantum photonics. He has authored and coauthored over 100 journal and conference papers, including two invited book chapters, and holds 15 patents in Taiwan and US. Prof. Lee is a senior member of IEEE, and Optical Society of America (OSA). He served in the program committees of several technical conferences, including CLEO (2006~2008), WOCC (2012), CLEO Pacific Rim (2011), OMN (2015~present), MOC (2018) and OECC/PSC (2019). He received National Tsing Hua University Young Researcher Award in 2010, The 12th Far Eastern Y. Z. Hsu Science and Technology Paper Award and The Young Optoelectronic Researcher Award in Taiwan.

