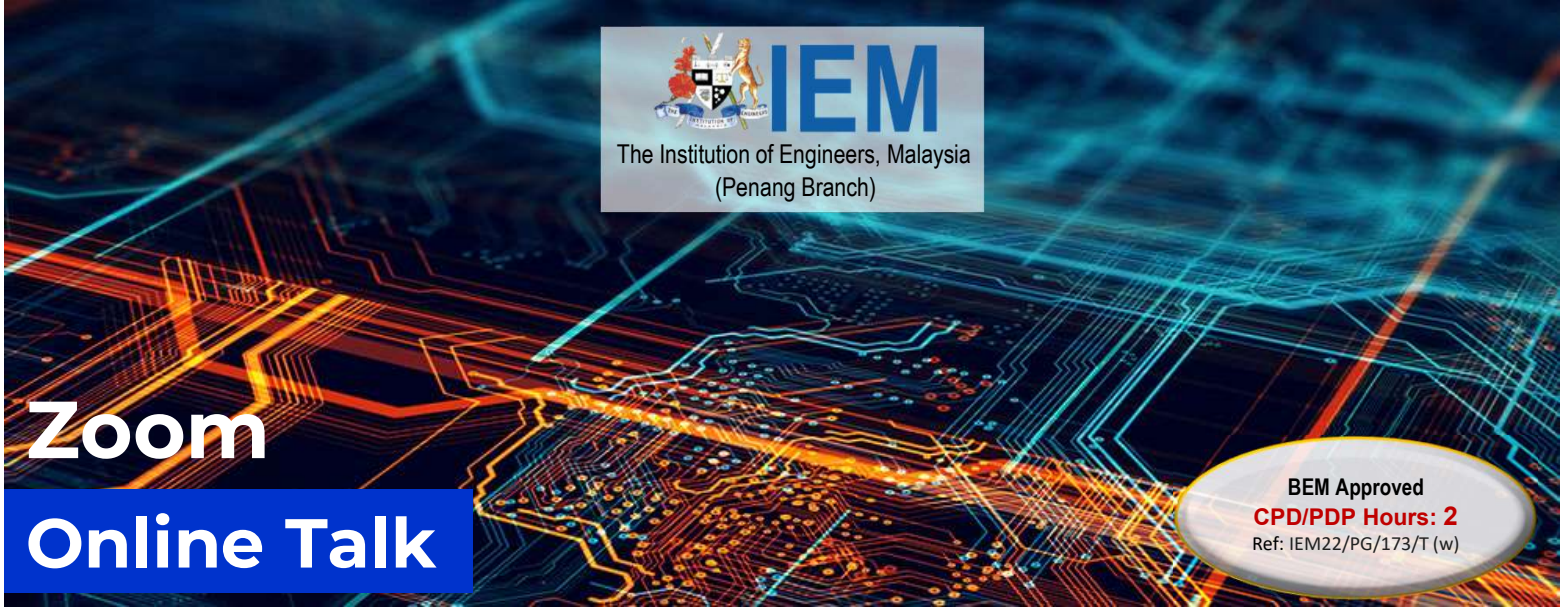

Photonic Integrated Circuit and Heterogeneous Laser Integration

Fri
19 Aug
2022

6:00pm - 8.00pm

REGISTER ONLINE @

event.iempenang.org

IEM Members : RM 15
Non-IEM Members: RM 50

Speaker:
Dr. Lee Chee Wei

Moderator:
Ir. Dr. Lee Choo Yong

This event is organized by:
Electronic Engineering Technical Division (eETD)
IEM Penang Branch

Synopsis

On the year 2013, the UN General Assembly 68th Session proclaimed the year 2015 to recognize the importance of light-based technologies in our lives, and for the future development of global society on many levels. Today, being an unsung hero, light-based technology, or photonic technology, has been widely implemented in optical communication, medical, sensors, display etc. that we use daily. As photonic technology gets more and more complex, photonic integrated circuits, or we called it PIC, has entered the commercial realms since many years ago. Beside its domination in optical comm, PICs have been touted as having the potential to be the preferred technology for data communications (inter- and intra-data centre communications), LIDAR solutions for autonomous driving, quantum computing, sensing for aerospace and aeronautics, satellite communication etc.

In this talk, Dr. Lee will give an introduction about photonic integrated circuits, addressing its various advantages and applications, and on the various technology challenges and progress in the field of PICs. Specially Dr. Lee will share his experience about silicon photonics and heterogeneous laser integration, which is the holy grail of photonics integration.

About the Speaker

Dr. Lee graduated from the Nanyang Technological University Singapore with a 1st class B. Eng (Hons) and a PhD degree. He further completed his postdoctoral fellowship in Cavendish Laboratory, University of Cambridge. Dr. Lee was an ASEAN Scholar, an A*STAR Graduate Scholar and an A*STAR Overseas Postdoctoral Fellow. Dr. Lee is a photonics enthusiast. He has accumulated more than 20 years of experience in the field of photonics, with about 12 years of R&D experience in Singapore government laboratory and university, and about 8 years product and technology development experience in companies such as Huawei Technologies, Jade-bird Display Pte Ltd, CompoundTek Pte Ltd, Thermofisher Scientific and Agilent Technologies. He has many years of leading technical projects and teams from Singapore, China, Japan and Germany, beside his preference to adopt a hands-on approach in the design and simulation of photonic devices, semiconductor processing, device characterization and failure analysis. Amongst the various challenging sub-fields of photonic technology, Dr. Lee has worked in integrated photonics, heterogeneous laser integration, micro/nano-cavity semiconductor laser, narrow-linewidth tunable laser, 2-photon 3D lithography, MicroLED, silicon photonics wafer level testing and nonlinear photonics.