



The Institution of Engineers, Malaysia
(Penang Branch)

Zoom Online Talk

BEM Approved
CPD/PDP Hours: 2
Ref: IEM22/PG/027/T(w)

Integrated Circuit Design: Challenges and Solutions



6.30pm – 8.30pm

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Speaker:
Assoc Prof Ir. Dr. Arjuna Marzuki



Moderator:
Ir. Dr. Tan Kim Seah

This event is organized by eTD (Penang Branch) in
collaboration with:



Synopsis

What are the challenges in integrated circuit design? Is achieving design specification one of the challenges? What is the first-time right design? With the progress of semiconductor technology such as CMOS technology scaling, tremendous progress in an integrated circuit has occurred. It seems the technology is the quick solution to the challenge. The FinFET will soon reach the quantum-mechanical limit around the year 2022. Although the 2D material has the specific potential to further down-scaling, it is still limited by the size of a single molecule. We will look into the 'more Moore' approach and provide an avenue for a 'powerful' integrated circuit beyond that. We will also look at the concept of co-design. This talk discusses the design dimensions that can become a solution in the integrated circuit design challenge.

About the Speaker

Arjuna Marzuki received the B.Eng (Hons) in Electronic (Communication) from the Department of Electronic & Electrical Engineering of the University of Sheffield in the United Kingdom, MSc from Universiti Sains Malaysia, and Ph.D. from Universiti Malaysia Perlis. Arjuna joined Hewlett-Packard as an R&D engineer in Wireless Semiconductor Division in 1997. He then later joined IC Microsystems Sdn. Bhd. in Cyberjaya, Selangor, Malaysia as IC design staff engineer. He later joined Agilent Technologies as IC design engineer/manager in Optical Product Division. He worked at USM from 2006 to 2021 as an associate professor. He is currently an associate professor at Wawasan Open University. In addition, he is actively working as a consultant to several companies in IC design activities.

He has been granted 1 US patent and has developed more than 20 commercial products during his employment with Hewlett-Packard/Agilent Technologies and IC Microsystems. Arjuna had gained professional qualification as a professional and chartered engineer when he was registered with the Board of Engineers Malaysia and Engineering Council UK. He is also a fellow of the Institution of Engineering and Technology (IET)- FIET.