Topics and Abstracts:

Speaker	**Professor Aaron Thean**
Company	**National University of Singapore**
Designation	**Director of HiFES Research Program, NUS-SIMTech Joint Lab on Large-Area Flexible Hybrid Electronics, Applied Materials-NUS Corporate Laboratory.**
Title of Presentation	**Hybrid Flexible Electronics: New Opportunities for Novel Materials, Novel Integration, & Novel Electronics**
Abstract	We live in exciting times where new technology convergences are emerging. We see the next evolution of semiconductor technology amalgamates with emerging applications of IoT, machine learning, precision medicine, and wearables. Underlying these verticals are exciting innovations in material, devices and, systems at different scales and levels. The overarching objective is to improve functionality, performance, form factor, and cost of new electronics. From semiconductor technologies to wearable technologies, new materials and their novel integration are enabling novel electronics. In this talk, I will review new research interests at National University of Singapore in hybrid flexible electronics for wearables, and the role of advanced materials can play. I will describe some of our recent work on ultra-thin semiconductor devices for flexible optoelectronic application, wearable health monitors that combine rigid semiconductor signal processing, soft materials, and, liquid conductors. The combination of hard and soft not only allow for electronics in new package form factors, but it also bring new opportunities to integrate functionality into the packaging.

Biography

Aaron Thean is a Professor of Electrical and Computer Engineering at the National University of Singapore (NUS) and the Director of Applied Materials – NUS Corporate Research Laboratory. He is also the Director of the University's new research program on Hybrid Integrated Flexible Electronics (HiFES), comprises of 16 multidisciplinary research teams. Prior to joining NUS in 2016, Aaron served as IMEC's Vice President of Logic Technologies where he led IMEC's International path-finding research consortium with industry partners that included Intel, Samsung, TSMC, Globalfoundries, Qualcomm, Apple, and Applied Materials. Before moving to Europe, he had been with several US technology companies like Qualcomm, IBM, and Motorola. He had worked on technologies for System-On-Chip to advanced process technologies. Aaron graduated from the University of Illinois at Champaign-Urbana, USA, where he received his B.Sc. (Highest Honors & Graduated as Edmund J. James' Scholar), M.Sc., and Ph.D. degrees in Electrical Engineering. He has published over 300 technical papers and holds more than 50 U.S. patents for inventions in the field of advanced electronics. He also serves as editor for the IEEE Electron device letters. He returned to Singapore in 2016 after 23 years abroad, to pursue a career in academia with NUS.