

Dean's Distinguished Lecture

Printed Electronics – Fantasy, Hype or Innovation and Opportunities

Date: Monday, July 24th, 2017

Time: 3 – 4:30 p.m.

Room: ENG 358

Presenter: Prof. Beng Ong, Director, Research Centre of Excellence for Organic Electronics, Deputy Director, Institute of Creativity and Chair Professor in Materials Science, Department of Chemistry, Hong Kong Baptist University

Seminar Abstract: The interest in printed electronics has exploded over the last decade owing to its potential for creating impactful large-area, lightweight, flexible, and ultra-low-cost electronics. To realize this technology vision, manufacture of semiconductor devices by high-throughput roll-to-roll printing, instead of slow batch-wise photolithographic processes, would be paramount. Printed electronics offers a low-cost and eco-friendlier manufacturing approach to a wide range of semiconductor devices including next-gen displays, ultra- low-cost RFIDs, smart labels/packaging, sensors and images, etc. Foremost among critical enablers to propel this paradigm shift in manufacturing is a performance-fulfilling materials suite and compatible processes for fabricating functionally-capable transistors – the fundamental building blocks of modern microelectronics. This presentation discusses the issues, challenges, and advances in materials and processes for printed electronics over the last decade and the outlook for this emerging technology moving forward. It aims to shed light on whether printed electronics are all fantasy and hype or innovation and opportunities of impactful commercial values for our times and beyond.

About the Presenter: Prof. Beng Ong is presently the Director of the Research Centre of Excellence for Organic Electronics and Chair Professor in Materials Science at the Hong Kong Baptist University. He was formerly a Nanyang professor at the Nanyang Technological University in Singapore, concurrently holding joint Directorships at the Institute of Materials Research and Engineering and Singapore Institute of Manufacturing Technology. Prior to his relocation to Asia in 2007, Prof. Ong was a Xerox Senior Fellow and 21st-century Materials Strategist at Xerox Corporation, and an Area Manager at Xerox Research Centre of Canada.



Over the years, he has held adjunct professorships at academic institutions including McMaster University, University of Waterloo, and Shanghai Jiao Tong University in China as well as an Honorary Professorship at Shanghai East China University of Science and Technology. Prof. Ong publishes extensively in advanced materials, organic electronics, and nanotechnology, etc. and currently has a patent portfolio of 230 granted U.S. patents and numerous foreign equivalent patents to his credit. Prof. Beng Ong received a BSc degree from Nanyang University, a PhD degree from McGill University, and did his postdoctoral studies at Harvard University before joining Xerox.