

Seminar on

Innovation as an Engineering Education Goal and Beyond

by

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Abstract

Innovation and STEM programs were identified as effective measures to foster economic growth and improvement in the quality of life. It is natural for engineering schools to embrace the opportunity to renovate the curriculum in response to the call. Over the past decade, many new initiatives have been implemented by various universities to sharpen the abilities of their graduates to meet with the expectations of industry. An examination of the recent changes in the engineering curriculum and its delivery are discussed in light of innovation as a learning goal. Some issues faced by the current generation of engineers in exercising their creativity and bringing about innovation to their jobs are examined. Project-based learning and design experience appear to be two common themes championed by the initiatives of educational institutions, from school districts to universities and continuing education programs. Effective methods for assessment of student performance in projects have been a subject of considerable interest with far-reaching implications. As electronic products and software become less transparent, hence not amenable to be tinkered or repaired by the public population, not only the curiosity of an aspiring student is hampered, but also the insight to scientific phenomena one would have acquired in working with devices and gadget becomes less accessible. More responsibility is placed upon the teacher and the parents to foster the interest of school-aged children on STEM subjects. The discussion culminates with a number of recommendations for industrial organizations and regulatory bodies to facilitate and utilize the talents of innovative engineers for public interest.

Biography

Thomas Wong read electrical engineering at the University of Hong Kong and did graduate work in microwave measurement at Northwestern University. He joined the faculty of Illinois Institute of Technology in 1981 and is currently a professor. He has served as graduate program director in electrical and computer engineering, department chairman, and chair of the faculty council. His research has mainly been in applied electromagnetics and microwave instrumentation. He has been involved in the planning, development and mentoring in an interdisciplinary project-based learning program for two decades. He is the author of *Fundamentals of Distributed Amplification* (Artech, 1993), co-author of *Electromagnetic Fields and Waves* (Higher Education Press, 2006 & 2012), and originator of several patents in microwave electronics and wireless systems.

Date : 17 December, 2014 (Wednesday)
Time : 06:30 pm – 07:30 pm
Venue : Room G6302, Academic 1, City University of Hong Kong

***** ALL ARE WELCOME *****

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