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## **GC 2012-5640: COLLABORATIVE EFFORTS IN DEVELOPING THE PHD IN ENGINEERING EDUCATION PROGRAM IN UNIVERSITI TEKNOLOGI**

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Dr. Khairiyah Mohd-Yusof is an Associate Professor in the Department of Chemical Engineering, University Teknologi Malaysia (UTM). She is the Director of the UTM Regional Centre for Engineering Education (RCEE), which promotes meaningful research and scholarly practice in engineering education, and manages the PhD in Engineering Education program. Since 2011, she is the Secretary of the Society for Engineering Education Malaysia (SEEM). Prior to becoming the Director of RCEE, Dr. Khairiyah was the Deputy Director at the Centre for Teaching & Learning (2008–2011), and the Head of the Chemical Engineering Department (2006–2008). Her engineering education research focuses on innovative teaching and learning practices, especially Cooperative Learning (CL) and Problem-based Learning (PBL), first year experience, and sustainable development in engineering education. A practitioner of Cooperative Problem-based Learning (CPBL), she regularly conducts training for academic staff from institutions of higher learning, especially in student-centered teaching and learning methods.

## **Collaborative Efforts in Developing the PhD in Engineering Education Program in Universiti Teknologi Malaysia**

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### **Abstract**

The PhD in Engineering Education program in Universiti Teknologi Malaysia (UTM) was first offered in late 2008. Since the program is multidisciplinary in nature, with very few reference points to benchmark against as well as scarce expertise in the area, collaboration with institutions from other parts of the world with a similar program were established. Since the beginning of the program, collaborations with the School of Engineering Education, Purdue University was established, especially to obtain feedback on the quality of students' performance. Further cooperation of agreement to offer a joint PhD in Engineering Education program was signed with Aalborg University in Denmark.

Since the pool of experts conducting rigorous research in engineering education is rather limited, some of them were invited to provide research consultation and short courses to students. Although there are experts in educational research methods in UTM from the Faculty of Education who also assisted students in the program, having someone who has conducted research and published specifically in engineering education motivates students to conduct their research to a similar high level of rigor.

When the time came for students from the first cohort to submit their theses and go through the oral defense, external examiners were purposely appointed from universities with similar programs, mainly from Purdue University and Aalborg University. This does not only ensure that students are able to have an expert in engineering education as their examiner, but also provide assurance that the quality of the graduates are at par with other programs at the international level.

Through collaborative efforts with partner universities, the PhD in Engineering Education in UTM program managed to generate capacity in engineering education research not only among the PhD students/graduates, but also among academic staff who supervise them. With this capability, further collaborative efforts can be made, especially in helping the community of practice grow in Asia.