Synopsis

**Topic 1: Transition from Real Lab to Virtual Lab in Engineering Education by Dr. B. Balamuralithara**

Computing and communication technology has had a significant impact on the engineering education system. This technology has improved online and collaborative learning. Besides that, it improves the students learning experiences. One of the distinguishing elements of engineering education is the laboratory requirement where the biggest challenge is how we are going to change real labs to virtual labs. In this workshop, we will discuss the key issues and current trends in transformation of real lab to virtual lab in engineering education.

**Outline:**
- Introduction of Engineering Instructional Laboratories.
- Real Lab, Simulation Lab and Remote Lab
- Issues and Trends of Virtual Lab in Engineering Education

**Topic 2: Semantic Technologies for Personalized Learning Systems and Applications by Mr. Simon**

However, although the Semantic Web has seen significant success in various internet applications, there is still only limited adoption of the successful semantically enhanced learning systems and applications in the domains of education and technology-enhanced learning (TEL). With the sharing of open learning and educational resources on the Web becomes common practice with the growing popularity of Web 2.0 applications such as social network and multimedia file sharing, a large amount of research was dedicated to interoperability between educational repositories based on semantic technologies. This workshop builds on the fundamental belief that the semantically enhanced internet hypermedia resources have the potential to fulfil the TEL vision of large scale interoperability of educational resources as well as highly personalised and adaptive educational applications. The workshop solicits research contributions exploring the promises of the semantic web technologies for personalization in TEL by gathering participants from the areas of the Semantic Web and educational science and technology.

**Outline:**
- Introduction to semantic web technologies
- Semantic technologies for personalization of TEL.
- Issues and Trends of personalization in TELs.
Topic 3: Strategic Use of Technology for Effective Teaching and Learning by Assoc.Prof. Dr. Elok

The use of web based technology to facilitate teaching and learning, particularly of scholarly and engineering programmes is a challenge to both instructors and students. Effective use of such technologies is constrained by, among various factors notably costs, accessibility, availability, functionality, ability to use, commitment to use, distractions, and pedagogy. This session will explore various aspects of using web tools to facilitate education. Participants will have the opportunity to explore examples of free web utilities and examine usage among themselves.

Outline:
- Use of technology to support instructions
- Selected web applications
- Impact factors upon effective use of technology in teaching and learning

Objective

To introduce concepts, issues and application of Technology Enhanced Learning

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Who should attend?
Students and lecturers from Engineering/Computer Science or related background; Anyone who would like to get better insight on Technology Enhanced Learning.
Speaker's Biography

Balamuralithara Balakrishnan obtained his B.Eng (Hons) from Universiti Teknologi Malaysia. M. Eng.Sc and PhD (Creative Multimedia) from Multimedia University. He is presently an Assistant Professor in Faculty of Engineering and Science, Universiti Tunku Abdul Rahman (UTAR), Malaysia. He is also the Chairperson for Learning and Teaching (CLT), UTAR. His research and consultancy interests for the past eleven years have been spread between include E-Learning in Education, Educational Technology, Wireless communication and Error-Control Coding. He trains UTAR academicians conducting workshop on Essence of Teaching and Learning in Higher Education. He also serves as a Committee Member in Engineering Education Technical Division of The Institution of Engineers, Malaysia. He also was elected as Working Committee Member for National Policy for E-Learning under the Ministry of Higher Education, Malaysia.

Simon Lau is a lecturer and researcher of the Faculty of Engineering and Science, Universiti Tunku Abdul Rahman (UTAR), Kuala Lumpur, Malaysia. He earned his M.Sc. of Construction Engineering and Management from the Malaysia University of Science and Technology and B. Eng (Hons) in Electronics Engineering from Multimedia University (MMU). He has held various industrial portfolio serving technology companies such as Panasonic R&D (Malaysia) and MSC Technology Center as R&D engineer, analyst programmer and consultant. His teaching and lecturing career for the past 7 years in MMU and UTAR has involved various undergraduate and postgraduate courses in computer engineering and software engineering. His research and consultancy interest ranges from context aware computing, personalization technologies to e-learning, Web 2.0 applications and semantic web technologies.

Elok Robert Tee works with young adults, and is pursuing developing programmes that facilitate development of creative and critical thinking skills. He was Associate Professor at Universiti Tunku Abdul Rahman and Taylor’s University, and presently holds the same position at UCSI University. His interests and professional experience include the education marketplace, banking, computing (communications & robotics), environment, and gifted education. He is a keen advocate of community programmes and volunteer work in specialist education. Presently he is actively serving as Vice-President of the NAGC Malaysia (National Association of Gifted Children), and as Executive committee of Asian Beacon publication.