Mathematics and Mathematics Education
Academic Group

NIE
NATIONAL INSTITUTE OF EDUCATION
SINGAPORE

MME Seminar #10



Dr Robert Sbaglia Ast/P Ho Weng Kin Dr Ng Wee Leng

Date: 24th May, 2016 (Tuesday)
Time: 3.30 to 4.30 pm
Venue: Journal Room (NIE7-03-16)

Abstract

Talk 1: Personalising Mathematics for Lower Secondary students

Talk 2: Developing Computational Thinking through Coding

Talk 3: Graphing Calculators (GCs) and The School Mathematics Curriculum: Perspectives and Issues From Three Countries

Robert will describe how his school, Crusoe College in Victoria, Australia, has delivered a school-wide Mathematics program that uses team teaching, open-plan learning and ICT to provide students with an entirely personalised experience of the Victorian Mathematics Curriculum. In addition to providing students with teaching at the students' point of need, the IGNITE Mathematics course also provides students the opportunity to be creative, self-directed learners whilst maintaining the educational necessary for academic success. The course was recently recognised through the award of "Victorian Education Excellence Awards Secondary Teacher of the Year" to its main instigator, Robert Sbaglia.

Weng Kin will talk about the disciplinarity of coding. Based on a characterisation of such a disciplinarity, a curricular framework for inculcating computational thinking is proposed. The main message is that computational thinking can only be imparted by doing. This proposition is supported by episodes of a graduate course in which graduate students (who are mainly mathematics teachers) develop computational thinking and coding competencies via VBA.

Wee Leng will highlight critical issues associated with effective implementation of GCs into the school mathematics curriculum in Australia, Singapore and the United States of America. These issues include the nature of school mathematics, examination practices, Computer Algebra Systems, the support of teachers and students, curriculum change and development, the focus on learning, dealing with inherent limitations of GCs, school and university differences, as well as future technologies.

All are Welcome!