



Innovative Teaching in Preparing Tomorrow's Scientists and Engineers for Challenges and Opportunities of the 21st Century

WeL09 Panel Session, Room 1.41

Wednesday, August 27, 2014, 12:00-13:30

Organizers and Moderators: Bozenna Pasik-Duncan (University of Kansas) and Iven Mareels (University of Melbourne, Australia)

Sponsored by the IFAC Technical Control Education Liaison and TC 9.4 Technical Committee on Control Education

This Special Education Session focuses on multiple challenges and opportunities that are presented to young investigators preparing for careers in science and engineering and addresses important control engineering education issues of innovative teaching, balancing math, science and technology in engineering education but also how to prepare students for the complexity of the problems in the modern world. Invited international control engineering scholars and educators from academia and industry will share a word of wisdom in addressing the following and other related questions: How do we integrate research and education? What we, scientists and educators, should do about cultivating student interest in science, math and engineering? Is it important for control engineering students to know math and science? Should control engineering education focus mostly on engineering? What kind of control engineering textbooks are popular among students? Do they need textbooks? Should engineering education focus mostly on technology? What are the most successful methods in innovative teaching of current students?

The expected output of this session would be to make recommendations to the IFAC community for cultivating students interest in science, math and engineering by encouraging the control community to do better at communicating the excitement, power and beauty of control systems integrated with science and math to the broader group of engineering students and to the public. Collectively we must develop understandings, look at relationships among things that influence our every day lives, the environment in which we live now, look at how to develop new products, new technology, new models, new applications in different disciplines, look at issues of health or economic well-being in new ways. Those are only some issues that seem to be very important for our discussion in which we all are engaged.
