

**International Conference on Engineering Education  
ICEE-2014**

June 2-6, 2014, Riga, Latvia

**CALL FOR PAPERS FOR SPECIAL WORKSHOP ON**

**East-West Cooperation for the Enhancement of Teaching and Learning in Engineering**

An interactive workshop is proposed to explore the similarities and differences between contemporary engineering education in the West and in the former Soviet and East European states, particularly in respect of providing appropriate curricula for employability within global industries.

Background

In a rapidly changing world, it is easy to observe that different historical legacies, in large part, provide the fundamental basis of the present-day engineering curricula at the majority of institutions, East and West. Engineering students, however, graduate into an increasingly global world where most major industrial companies and corporation are multi-national and most far-thinking universities are actively promoting rejuvenated internationalisation and diversity policies.

The differences in approach between the leading edge pedagogies of the 'West' and the traditional former 'Soviet' system are stark: on the one hand, Enquiry Based and Active Learning Topographies are being heavily promoted and on the other, we have a preponderance of science intensive didactic courses.

The system of engineering education in the USSR and East European aligned countries was historically notable for its size and its diversity. Being a complex and varied system; it was not well understood by outsiders. Since the mid-1980s, the entire educational system, and the economic system on which it was based, have seen massive change and there has been serious discussion of changing to a "European" or "American" system.

A joint report from the Royal Academy of Engineering (RAEng) and Massachusetts Institute of Technology (Graham, 2012) confirmed that change in western undergraduate engineering education is also urgently needed to ensure graduates remain equipped for the new and complex challenges of the global 21st century. One particularly interesting aspect of this compressive survey of international 'experts' was that the recent drive for research excellence in the west is responsible, at least in part, for reducing the proportion of faculty with significant industry experience and these individuals have previously been significantly more likely to support and drive educational change.

Education, under the Soviet system was always strongly conflicted between academic and vocational purposes. Although students encountered a curriculum designed by highly qualified academic specialists and were encouraged to grapple with highly complex mathematical topics beyond those encountered in most US and Western European Schools, and as a result, the teaching of an imaginative curriculum often resulted in requiring rote memorisation and solving problems under fixed conditions (Rotberg, 2010) where students

study for at least 5 years with an average of 35 to 50 contact hours per week compared with, typically 4 years and 15-18 hours in the US or 16-22 hours per week in the UK.

### Format of the Proposed Interactive Workshop

Papers are invited that broadly concern and expand on the above topics. The presenters will lead off and stimulate discussion by reporting on a 2013 symposium, held at Bauman Moscow State University “Preparation of Engineers – sharing the experiences of the UK”, promoting academia working with industry. The event was attended by representatives of eleven companies with interests in Russia. It is hoped that the workshop might be the stimulus for future international cooperation to share good practices and pedagogic principles that promote education relevant to today’s global employment market.

### Important Dates

Submission of abstracts:	January 27, 2014
Notification of abstract acceptance:	February 7, 2014
Submission of papers:	February 21, 2014
Notification of acceptance:	March 14, 2014
Final Paper to be received by:	March 28, 2014

### Submitting Abstracts and Papers

Please submit abstracts and papers through the link for Special Sessions at the ICEE-ICIT 2014 web site:

<http://www.ineer2014.rtu.lv>

### Session Co-Chairs and Presenters

Dr Peter Willmot  
Loughborough University, UK.

Dr Elena Smirnova  
Bauman Moscow State University, Russia.

### References

*Graham, R., 2012, Achieving excellence in engineering education: the ingredients of successful change. RAEng.*

*Rotberg, IC (ed.), 2010, Balancing change and tradition in Global education reform, R&L Education.*