

INTERNATIONAL CONFERENCE
ENGINEERING EDUCATION IN SUSTAINABLE DEVELOPMENT

EEESD'10

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BOOK OF ABSTRACTS

ORGANIZERS:



CHALMERS



ROYAL INSTITUTE
OF TECHNOLOGY

Engineering Education in Sustainable Development, EESD'10 19-22 September, Gothenburg, Sweden

ORGANIZED BY:

Chalmers University of Technology, Gothenburg, Sweden
KTH Royal Institute of Technology, Stockholm, Sweden

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Preface

Engineering Education in Sustainable Development 2010, EESD '10, is the fifth conference in a series of biannual international conferences dealing with all aspects of the education of engineers for sustainable development.

Sustainable development requires a shift towards a society that better addresses basic human needs and the limitations of natural systems. A transformation of e.g. mindsets, educational approaches, societal structures, technical systems and economic accounting methods is needed. Engineering education institutions can play an important role in this transformation and in the sustainable society if sustainable development becomes a framework for a redesign of the structure and goal of organizations and of pedagogical, research and cooperation approaches and methods. This conference addresses the role of engineering education in the learning for the required transformation.

The conference is arranged by Chalmers University of Technology and KTH Royal Institute of Technology. EESD '10 takes place at Chalmers on the 19-22 September 2010.

On behalf of the organizing committee we wish you very welcome to EESD '10.

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Improvement of doctoral studies in industrial engineering

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The market competition drives to make more sustainable solutions for industrial engineering. The industrial companies are interested to have compatible positions in market; that is why the existing engineering solutions often are not sufficient after just few years of exploitation. The results of internal project concourses, in the industrial application of researches demonstrate that the interest from industry is higher, than financial possibilities. There are a lot cooperation projects between RTU and industrial companies in several engineering issues. The research based education for doctoral students allows attract them for industry - oriented research as well as it allows building academic carrier. The international experience during ARTEMIS network, IEEE association EPE and other international organizations, allows an application market wide EU. The main topics for sustainable development of industrial electronics are: Direct Frequency Converters; Energy Saving; Multifunctional AC Converters; Performance Optimization Services for Electric Drives; Semiconductor Converters for Electrical Technologies and Industrial Automation; DC Traction Drive ; Hydrogen Power Electronic Converters; Matrix Frequency Converters; Electric Drive and Automation; Non-Destructive Testing Method; Transient Processes in Long Power Transmission Lines; Intelligent Equipment; Control and Regulation of Electric Drive and Powerful Automation Elements; Single-wire Electrical Power Transmission Lines. Analysis and investigation of computer control methods for the industrial systems with the use of wireless technologies, investigation of antenna; Electric drive and automation; super-capacitor power accumulators. The existing experience and future contacts allow participation in international training programs, such as FP7-PEOPLE Marie Curie actions.