News@SEFI
The European Engineering Education Information Bulletin
Issue 07-08/ 2016

44th SEFI Annual Conference
12-15 September
Engineering Education on Top of the World: Industry University Cooperation

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Conference Highlights

Keynotes and Round Tables

Dr. Mervyn Jones

Engineering, Industry and Education: A Personal Perspective

Engineers have been central to the creation of the modern world, yet yesterday’s amazing developments soon become an essential part of today’s society, with the huge technical achievements soon being ‘taken for granted’. Today and in the future many of the problems faced by society will only be solved through the involvement of engineers, but are we preparing them appropriately for this?

Dr. Gary Downey

Leading through Technical Mediation?: Engineering as Problem Definition and Solution (PDS)

All of us who teach engineers share at least one common problem: the continuing dominance of an image of engineering education that place highest value on mathematical problem solving in the engineering sciences. That image has long grounded engineers’ claims of jurisdiction over technology development through design. Yet many fields now claim such jurisdiction. Continuing to privilege technical problem solving alone risks de-moting engineers into technical support, waiting to solve problems defined by technological leaders trained...
otherwise. I offer here an alternative, extended image of engineering work as collaborative problem definition and solution (PDS). It re-defines engineering leadership as technical mediation among competing approaches to defining and solving technological problems. My analysis outlines four current challenges to the engineering claim of jurisdiction: changes in the work of scientists, mass production of engineers for technical support, shared jurisdiction through teamwork, and contrasts in the meaning of engineers and engineers across the borders of countries. Three sets of PDS practices include early involvement in problem definition, collaborating with those who define problems differently, and assessing alternative implications for stakeholders. Three sets of strategies for integrating the PDS image include adapting pedagogies in engineering science courses, adapting pedagogies in peripheral courses, and adapting curricula to produce more than one thing. Could integrating PDS practices into your teaching work for you? Would engineers accept and value an image of leadership as technical mediation?

Plenary Round table New skills for new jobs, New tools for new skills

Chair: Xavier Fouger, Dassault Systèmes

Engineer’s workplace performance requires new practices enabled by new tools. How to better prepare them? Panel presentation and exchange with the audience.

Panelists Marc Fry, Granta Design, Alex Tarchini, Mathworks, Michel Haddad, National Instruments, Xavier Fouger, Dassault Systèmes.

Dr. Aldert Kamp

Better Make It Real

The world is changing. How we communicate, work, travel, entertain and do business. And it will change faster in the future. But the world of engineering education has been extremely conservative over the past 20-30 years. Industry, the main employer of engineering graduates, increasingly has warnings that engineering education is deficient, and the gap is widening. Various game changers make the need for change even more urgent: increasing complexity of societal problems, disruptive technologies, faster innovation cycles, digitalisation, flatter organisational structures, open source data, Millenial generation students with different values, and universities losing ground in innovation. Technology and society are fundamentally reshaping the engineering profession. If higher engineering education wants to be on top of the world and educate tomorrow’s industrial leaders, the urgency to change is sky-high. This keynote speech will outline a number of subthemes of the SEFI conference...

Ville Korpiliuoto (NEW!)

Demola - Building Innovation Culture

Ville Korpiliuoto leads the activities of Demola Tampere, the famous student innovation project platform. Demola produces innovation projects co-created by university students and project partners. Demola was established in Tampere (2008) and is growing rapidly, nowadays operating internationally in almost 20 different locations. Demola Tampere launches annually three campaigns including 70 Demola projects with 50 project partner companies and 400 students. Projects start from existing need or problem and result in tangible concepts, demos and prototypes. Demola Tampere is located at the New Factory innovation center in the historic cotton factory in Finlayson area.

Special SEFI Meetings

Mon 12 September 2016
Board of Directors Lunch (by invitation) 13:00-14:00
Welcome Event to SEFI Conference Newcomers 14:00-15:00

Tue 13 September 2016
ECED Lunch Meeting (by invitation) 13:00-14:00
Lunch Coordination meeting of all SEFI WGs 13:00-14:00

Wed 14 September 2016
Lunch SEFI Corporate Partners (by invitation) 13:00-14:00
SEFI WGs meetings 14:00-15:00
Workshops, Project/Consortium Meetings (see list and descriptions in the next pages)
SEFI General Assembly (by invitation) 15:00-17:30
**SEFI 2016 - Satellite Events**

**Online Learning in Engineering Education Hands On Workshop**

A recent publication of MIT: “Online Education: A Catalyst for Higher Education Reforms” by Willcox, et al. (2016), confirms that online education is a driving force for innovation in Engineering Education.

It is an important motivation for the organization of this pre-conference hands-on workshop for those who are interested in using online learning in their education. The goal is to give the participants an overview of how to develop and run an online course (MOOC, ProfEd or accredited online course) and to get them started with the design of their own course. By the end of the day each will have produced a rough course plan with 1 week outlined in detail including the development planning of the course. Participants will meet fellow lecturers and be able to steal brilliant ideas to save time for later on!

The workshop is prepared and given by a team of experienced online learning developers, teachers and researchers from the Delft University of Technology (Netherlands) and the Massachusetts Institute of Technology (US).


**SEFI 2016 - Workshops**

Titles and descriptions of some of the listed workshops are not available at the time of the publication. Details and timing is available on [www.sefi2016.com](http://www.sefi2016.com)

**Transfer of Engineering Education to Academic Curriculum.**

**Joint Workshop WG Curriculum Development/Open and Online Engineering Education**

The workshop is open to a forum for people interested in the development of Engineering Education in Europe. It consists of people highly involved in all aspects of modern engineering education. Through sharing our experiences we all gain in insight and knowledge. The Working Group promotes discussion and involvement on diverse themes through various activities.

**Exploring Pedagogic Frailty in Engineering Education: What’s holding us back? What are some tangible actions?**

**Workshop WG Ethics in Engineering Education**

Pedagogic frailty is a concept that describes the factors that may inhibit teaching development within a university environment. With reference to Figure 1, a tentative model of such frailty has been proposed by Kinchin (2015) and is based around four major dimensions: (i) The nature of regulative and instructional discourse (i.e., the consideration / review of the values and philosophy that underpin the curriculum as well as content selection, sequencing, pacing and assessment). (ii) The connection between pedagogy and the discipline to support e.g. employer, job role and graduate skills needs. (iii) The research-teaching nexus affecting e.g. motivation, recognition, rewards and status. (iv) The locus of control, i.e. the perceived control of e.g. quality assurance, regulation and decisions / guidance on best practice.

**Can autonomous vehicles change traditional gender stereotypes?**

**WG Gender and Diversity in Engineering Education**
Workshop on Education for sustainable development

WG Sustainability in Engineering Education

The scope of this workshop is to plan comparative research on engineering education for sustainable development. We encourage you to bring your ideas and present them in a 5 minutes elevator pitch. It can be a wish to compare particular pedagogical strategies on the institutional level, to compare curricula design processes and outcomes, or to compare every day practices in order to enable engineering students to address the sustainability challenge.

If you do not have formulated a concrete idea, but still is interesting in collaborating across universities to improve engineering education for sustainability – please join in. The ambition is to provide concrete plans and commitment for cross-institutional papers on education for sustainable development to be presented at the SEFI conference 2017.

For any questions please contact Jette Egelund Holgaard (jeh@plan.aau.dk)

Workshop Epices - Development of a platform for helping teachers / tutors / coaches involved in problem- and project-based learning

European Funded Project under Erasmus +

This workshop is designed to be an interactive session that aims to demonstrating and testing the developed educational platform and tools. This workshop is therefore an essential part of the interaction of the EPICES project with its stakeholders (students, academic institutions and the industry) and will help to optimise and finalise the platform to be available at the end of the project in January 2017.

Full version on www.sefi.be

Workshop ReadySTEMgo - The identification of at-risk students

European Funded Project under Erasmus +

In this workshop the participants will be challenged to think how at-risk populations are identified at their respective institution. How different risk factors? (e.g., problematic conceptual understanding, weak prior performance, social integration issues, lack of essential academic skills, poor attitudes,...) They are related to the National educational context. Finally, there will be a discussion: (1) how these at-risk populations are targeted by specific interventions and (2) what a university can do to help those students to perform at their maximum capacities.

Full version on www.sefi.be

Can autonomous vehicles change traditional gender stereotypes?

Workshop Gender and Diversity in Engineering Education

Vehicles and especially cars, from technological development to questions of design, are full of gender (and other diversity) stereotypes. In the first part of the workshop we want to share some very funny examples and discuss the question why and how these stereotypes work. Own examples are warmly welcome. We will also have a little input about the market situation and change processes of automobile industry in case of market relevant gender sensitivity. In the second part we will try to look into nearest future, where autonomous driving is one of the key technologies. It contributes to efficient use of resources, cuts emissions, avoids traffic jams and accidents and will probably change mobility. The question is, if and to what extent autonomous vehicles help to generate, strengthen or replace gender stereotypes.

The idea of this workshop is to link questions of gender and diversity closer to technology itself. We want to invite all interested participants to take part actively, think about technology processes, gather new experience on gender and diversity sensitivity - and have fun with it.

Prof. Susanne Ihsen Technische Universität München, Germany; ihsen@tum.de

FULL DETAILED PROGRAMME ON WWW.SEFI2016.COM

JOIN US IN TAMPERE!
FROM SEFI

SEFI Annual Report 2015-2016

We are pleased to present you with the SEFI Annual Report 2015-2016 summing up our activities and offering an overview about our future. A printed version will be made available at the SEFI Desk during the 2016 SEFI Conference or online on www.sefi.be

London Agenda

As an outcome of the discussions of ECED 2016 in London, hosted by the University College London, SEFI together with UCL and Prof. Mads Nygard have brought together the London Agenda, a SEFI working paper. The London Agenda is intended to highlight the most important issues, challenges and opportunities for schools of engineering today. It is presented here listing important questions on current issues of today that are in line with the outputs of the Convention. A printed version will be made available at the SEFI Desk during the 2016 SEFI Conference or online on www.sefi.be

New European Project PREFER

SEFI is pleased to congratulate the team of KU Leuven for their Knowledge Alliance Project PREFER that has been selected and that will start in 2017. Sefi is a partner in this project.

The PREFER project (Professional Roles and Employability of Future Engineers) aims to reduce the skills mismatch in the field of engineering: new engineering graduates frequently display a lack of transversal skills required by the labour market. Enterprises observe a lack of self-awareness among new engineering graduates of who they are as an engineer and what their strengths are. Despite appropriate levels of technical skills, enterprises recruiting engineers often demand a more elaborated transversal skill set.

The objectives of the PREFER project are threefold. First, we aim to construct a Professional Roles Framework wherein the different roles engineers can take on in the beginning of their career are described, independent of the engineering disciplines (e.g., electronics, chemistry, ...). Each role will be characterized with an associated set of transversal skills. Thereafter, a Test System will be developed in order to (1) increase engineering students’ awareness of the multitude of professional roles in engineering and (2) to make them reflect on their own engineering identity and their interests, strengths and weaknesses. Third, we will explore how to implement these innovative tools into the engineering curriculum by running a number of pilots in the participating universities. This will result in a modern learning environment that ensures that people can develop their own talent in full on the basis of informed study and career choices.

In order to reach the PREFER objectives, a well-balanced consortium is constructed. Three leading engineering education institutions (Katholieke Universiteit Leuven, Delft University of Technology and Dublin Institute of Technology) and three multinationals with large experience in recruiting different profiles of engineers (Engie, Siemens and ESB International), are involved. In order to develop reliable and valid test material, an experienced test development partner (BDO) is a member of the team. And finally, we will guarantee a large European network thanks to three Societies of Engineers (ie-net, KIVI and Engineers Ireland), one national sector federation (AGORIA) and two European societies (SEFI and FEANI). They play an essential role in connecting higher education institutions with a large number of companies and SME’s hiring engineers.

More information will be delivered in upcoming newsletters.
**New Membership/Communication Officer**

Jacques Schibler, SEFI Communication Officer, will leave the SEFI HQ the end of the month of September 2016 after 5 and half years working in SEFI. After those active years within SEFI, he is moving to the Netherlands for personal reasons where he will pursue a new career path. We are happy to welcome Ms. Klara Ferdova (32), Czech. Klara is a graduate in architecture from Czech TU in Prague, where she was also President of its International Student Club and later Assistant to the Head of External relations. She also has had several years of experience (since 2009) in administrative and communication positions in Brussels (intern at NATO, recruitment consultant, American Chamber of Commerce to the EU). Klara’s main languages are Czech, English and French but she also speaks Italian, Slovak, and Spanish and is extremely motivated for her new position. She will start a six-month contract as SEFI Administration and Membership Officer in October 2016.

**FROM OUR PARTNERS**

**Call for Abstract**

The abstract submission phase for the 2017 ASEE Annual Conference and Exposition in Columbus, OH, Where Engineering Education Takes Flight, is open! The deadline to submit your abstract is October 16, 2016. Directions on how to submit an abstract can be found by clicking here: [https://www.asee.org/documents/conferences/annual/2017/2017_Authors_Kit.pdf](https://www.asee.org/documents/conferences/annual/2017/2017_Authors_Kit.pdf)

**Call for Papers are Available:**

The Call for Papers for the various divisions are available on our website at [https://www.asee.org/conferences-and-events/conferences/annual-conference/2017/papers-management/call-for-papers](https://www.asee.org/conferences-and-events/conferences/annual-conference/2017/papers-management/call-for-papers)

**More information on** [www.asee.org](http://www.asee.org)

**EUA meets with Turkish Higher Education Council**

EUA met with the Turkish Higher Education Council (YÖK) to discuss developments in the Turkish higher education sector following the attempted coup on 15 July 2016. The meeting took place at the EUA headquarters in Brussels on 6 September. The YÖK representatives included its President, Yekta Saraç, its Deputy President, Hasan Mandal, as well as Ahmet Çamsar, Chair of the InterUniversity Council, Mahmut Ak, Rector of Istanbul University, Erkan İbiş, Rector of Ankara University and Sezer Şener Komsuoğlu, Adviser to the President of YÖK, former Rector of Kocaeli University and a member of EUA’s Research Policy Working Group. EUA has been closely monitoring the developments in Turkey over the past year, and even more intensely since 15 July. It has also been engaged in direct dialogue with YÖK, an EUA member, since the coup attempt, and organised the meeting to promote clarity on recent developments. “With 64 EUA member institutions and nearly seven million students, Turkey is an important part of the European Higher Education Area,” explained EUA President Rolf Tarrach. “It is in the interest of the entire sector to promote dialogue and to work together towards preserving the fundamental values that universities share.” At the meeting, YÖK gave a presentation on the current situation in Turkey. EUA welcomed the transparency of the dialogue and the insights gained, especially the assurance that 1386 of the 1577 deans who resigned following the events of mid-July have been re-instated. Of concern to EUA is not only the situation of the deans, but also that of other staff and students, and generally, how the higher education system will develop in the future. EUA will continue to monitor, also as it has been confirmed that as a part of the measures in the aftermath of the coup attempt, 2300 academics have been dismissed. This information has been published in the Turkish Official Journal. EUA will continue to address this issue with its members, and also with other international partners, such as Scholars at Risk and the Magna Charta Observatory. Freedom of expression and academic freedom are core university values and of central concern to EUA. The Association insists and will continue to insist that no person should be dismissed without a proper investigation and the chance to defend oneself. In a follow-up to this exchange, it was agreed that YÖK representatives will discuss the situation in Turkey with the national rectors’ conferences during the upcoming EUA Council meeting scheduled for the end of October. EUA and YÖK are also planning to organise an event in Turkey in the near future to discuss common issues and to strengthen the exchange with individual Turkish universities.

**More information on** [www.eua.be](http://www.eua.be)
# CALENDAR

## SEPTEMBER 2016

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<tr>
<th>Date</th>
<th>Location</th>
<th>Event Description</th>
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<tr>
<td>12-15</td>
<td>Tampere, FI</td>
<td>44th SEFI Annual Conference Organised by the Tampere University of Technology (<a href="link">link</a>)</td>
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<tr>
<td>13-16</td>
<td>Liverpool, UK</td>
<td>28th EAIE Annual Conference (<a href="link">link</a>)</td>
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<tr>
<td>21-23</td>
<td>Belfast, UK</td>
<td>IGIP Annual Conference (<a href="link">link</a>) SEFI will be represented by Secretary General Françoise Côme</td>
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## October 2016

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<th>Date</th>
<th>Location</th>
<th>Event Description</th>
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<tr>
<td>6-7</td>
<td>Porto, PT</td>
<td>EUA is organising its 3rd Funding Forum hosted by the University of Porto (<a href="link">link</a>)</td>
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<tr>
<td>12-14</td>
<td>Geneva, CH</td>
<td>G3 Francophone Symposium on Quality in Higher Education Institutions (<a href="link">link</a>)</td>
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## November 2016

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<th>Date</th>
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<tr>
<td>6-10</td>
<td>Seoul,KR</td>
<td>WEEF &amp; GEDC 2016 (<a href="link">link</a>) Korean Society for Engineering Education (KSEE) Korean Engineering Deans Council (KEDC)</td>
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<tr>
<td>17-19</td>
<td>Ljubljana, SK</td>
<td>11th European Quality Assurance Forum Hosted by Slovenian Student Union/ University of Ljubljana</td>
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<tr>
<td>20-22</td>
<td>Budapest, HU</td>
<td>ACA’s (Academic Coorperation Association) Annual Conference 2016 (<a href="link">link</a>)</td>
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Please find the complete list of our upcoming events on [www.sefi.be](www.sefi.be)
SEFI is the largest network of higher engineering education institutions (HEIs) and educators in Europe.

It is an international non-profit organisation created in 1973 to contribute to the development and improvement of HEE in Europe, to reinforce the position of the engineering professionals in society, to promote information about HEE and improve communication between teachers, researchers and students, to reinforce the university-business cooperation and to encourage the European dimension in higher engineering education.

Through its membership composed of HEIs, academic staff, students, related associations and companies, SEFI connects over 1 million students and 158000 academic staff members in 48 countries.

To reach its goals, SEFI implements diverse activities such as Annual Conferences, Ad hoc seminars/workshops/councils organised by its thematic working groups and committees, SEFI organises European Engineering Deans Conventions, publishes a series of Scientific publications (European Journal of Engineering Education) and Position Papers, is involved in European projects, cooperates with other major European and international associations and international bodies (European Commission, UNESCO, Council of Europe, OECD).

SEFI also participated in the creation of numerous international organisations such as ENAEE, IFEES, EuroPace, IACEE, IDEA, or EEDC.

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Please send your contributions for the next issue to info@sefi.be before 25 September 2016

SEFI’s corporate partners

The SEFI newsletter contains information about SEFI’s recent activities as well as a summary of the latest stories in higher engineering education in Europe and worldwide. News@sefi is sent for free to SEFI members. All previous issues are available on www.sefi.be “members only”.

All staff and students of an institution, an association or a company member of SEFI are entitled to receive free copies of the newsletter. So, in case you know somebody that is interested in a free copy, feel free to contact us.