

**Abstract.** The paper describes the World Engineering Education Forum 2014 in Dubai (WEEF 2014). A short history of this event is given. The Global Student Forum before WEEF2014 is described. The attention is drawn to opening ceremony and keynotes, highlights on IGIP, GED and IFEEES under WEEF 2014 umbrella. Issues of globalization, joint research, attributes of global engineer, collaboration of universities and corporations, diversity and inclusion are discussed.

**Keywords:** engineering education, student forum, globalization, joint research, world level engineer, collaboration of universities and corporations, diversity and inclusion

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## THE PARTICIPATION OF IGIP IN THE 2014 WEEF

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**Abstract.** The paper describes the main achievements of the International Society for Engineering Pedagogy (IGIP) in the process of organization and participation in the 2014 World Engineering Education Forum. IGIP members were presenters at the plenary and numerous parallel sessions, participated in the IGIP Award ceremony.

**Keywords:** engineering pedagogy, global engineering education community, accreditation, curriculum development, development of professional continuing education

For IGIP, as one of the main participating organizations and as one of the major providers of highly qualified academic presenters,

including keynote speakers, the WEEF 2014 in Dubai has proved to be a highly successful event.

From the very first day on, IGIP EC Members and IMC Members networked intensely with the organizers from the American University in Dubai, with IFEES, with the Global Engineering Deans Council, and above all, with the young and promising members of SPEED and of the Global Student Forum.

After the opening ceremony on Wednesday, December 3, one IGIP highlight was already the keynote talk by Christian Dorninger from the Austrian Ministry of Education, Arts and Culture on “Engineering Education in Upper Secondary Systems”, where he talked about the challenges and the risks of engineering education that leads young people between the ages of 15 and 19 to a promising career, either in tertiary engineering programs or in the world of work. In addition, the digital poster session and the five IGIP-ICL parallel sessions dealt with interesting topics of teaching and learning, as well as with accreditation, curriculum development and remote labs. The high attendance in all sessions organized by IGIP, as well as the constructive feedback that was given by the competent audiences to the presenters and speakers, showed that not only a great number of IGIP members from all

around the world contributed well to the discussions of the interesting topics that were presented, but also proved that the global engineering education community took a great interest in getting together with the engineering pedagogy experts of IGIP. Thus, the first day has definitely left a sustainable impact on both IGIP, as one of the key players in engineering education, and on the audiences that realized how important IGIP is as an academic and pedagogical body for setting trends in engineering education.

In the morning of the second conference day, Thursday, 4 December, IGIP offered a range of five most interesting parallel sessions on the topics of collaborative learning and research in engineering pedagogy, as well as on knowledge management, industry-university partnerships, or new universities, and managed to successfully gather interested audiences again. The highlight of the morning was, however, the presentation of the IGIP-SPEED Young Scientist Award, which was given to a group of students in India who researched on the topic of “Diversification in engineering education through the Indian student forum” and to a group of Argentinian students who presented a study called “The



Один из основных докладчиков Торстен Франсон (Стокгольм) с президентом IGIP Михаэлем Ауэром.

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impact of the first Argentinian engineering students forum on the training of engineering students and its influence on education". It was sensational to see how the room was packed with young students who were cheering their peers and were also discussing the presentations as well as future trends in engineering education with an intra-generational audience.

In the afternoon, IGIP Vice-President Axel Zafoschnig was also taking part in the highly interesting IFEES panel session on quality assurance which was moderated by Michael Milligan from the US Accreditation Board for Engineering and Technology. Together with 5 other panelists, the IGIP EC Member engaged in a meaningful dialog on the three important areas of quality assurance in engineering education, namely accreditation, the mobility of graduates, and the quality of faculty. The outcomes of the panel discussion proved to be of general interest for the large audience and follow-up discussions were carried out on the topic at the elegant IFEES Awards Dinner at the Jumeirah Emirates Towers Hotel in the evening.

On the same conference day, the IGIP EC and IMC meetings took place in the afternoon

and another six IGIP-ICL parallel sessions on the interesting topics of online learning and international collaborative learning fascinated the big audience in the different conference rooms. Through its close cooperation with ICL, IGIP could organize excellent speakers who presented their findings on topics like digital and online engineering education, virtual and remote laboratories, the impact of globalization, as well as new learning models and applications, or helping teachers integrate and use ICT effectively in their teaching practice.

On the 4<sup>th</sup> day of the conference, Friday 5<sup>th</sup> December, IGIP presenters were offering six further attractive and informative parallel sessions on varied and diverse topics like new trends in graduate education, women in engineering, learning culture and diversity, infoliteracy, competence development in online laboratories, or Inter-Institutional cooperation in engineering education. All these sessions were attended by many highly interested members of other organizing and participating organizations of WEEF and brought about instructive and efficient discussions.

The IGIP afternoon sessions on that

Friday were a similar success, because in the five parallel sessions IGIP members from all around the world introduced their findings on such attractive topics as the impact of ethics on engineering education, the development of professional continuing education, or the findings of the latest research projects in engineering education.

The second afternoon session once again focused on the cooperation between IGIP and ICL, whereby the parallel sessions provided most interesting information on new teaching methods, on diversity programs, and on learning culture as well as on digital and online engineering education.



Победители конкурса молодых ученых, проводимого IGIP совместно со студенческой организацией Speed, с членами правления IGIP

On Friday afternoon, the IGIP annual general meeting took place in Maktoum Hall B and an impressive number of IGIP members there voted for a new IGIP Executive Committee which now consists of President Michael Auer, General Secretary Danilo Zutin, Vice-President Axel Zafoschnig (Austria), Vice-President Tatiana Polyakova (Russia), Tiia Röötmann (Estonia), Istvan Simonic (Hungary), Maria Teresa Restivo (Portugal), Roman Hrmó (Slovakia), Eleonore Lickl (Austria) and James Uhomobhi (UK). All IGIP members present were pleased about the new EC and expressed their hopes that the IGIP Board would be working as successfully as before in the next four years.

The highlight of the Friday was definitely the IGIP Awards Ceremony which took place in Maktoum Hall C and featured the presenting of the famous IGIP Nikola Tesla Chain to two excellent engineering pedagogy experts, namely Christian Dorninger from Austria and Claudio Borri from Italy. Both of them were honored with the chain for their outstanding achievements in the field of engineering pedagogy and for their reputed contributions to the engineering education community.

Apart from that, three other IGIP members, namely Dana Dobrovska, Jose Couto Marques, and Vassiliy Ivanov, received the 2014 Adolf Melezinek Meritorious Service

Award for outstanding achievements and longtime active work for IGIP. Finally, a number of Senior Members were nominated and the whole ceremony, inclusive of two excellent laudatory speeches, concluded in a highly festive atmosphere. Afterwards, the sponsor Dubai Business Events invited all IGIP members to the IGIP Dinner in the Dubai Heritage Village. There, a highly successful conference day for IGIP found its happy ending with good food and interesting talks and networking discussions.

When the last day of the WEEF conference in Dubai had come, all participants had already fed back to IGIP that the Dubai conference had been a great success and that also the IGIP topics of the last conference day, namely digital education and collaborative learning, or skills for effective guided learning, had also fully met with the requirements of the highly interested members of the global and international engineering education community. So, when the final closing ceremony took place at lunchtime on Saturday, 6<sup>th</sup> December, IGIP Vice-President Axel Zafoschnig stepped in for President Michael Auer who had to go to an IEEE conference in Wellington, New Zealand, with a cordial thank you to all the organizers.

In particular he thanked the Co-Chairs of WEEF 2014, Alaa K. Ashmawy from AUD and Hans Hoyer from IFEEES, as well as all



Удостоенные высшей награды IGIP – Цепью Никола Тесла – Клаудио Борри (слева) и Кристиан Дорингер (справа).

Удостоенные высшей награды IGIP с Хансом Хойером и Акселем Цафошником, представлявшими лауреатов



Дана Добровска, Василий Иванов, Хосе Маркес Коуту (справа налево) во время вручения им награды Адольфа Мелецинека

Альберто Кардосо, Ральф Дреер, Арно Реттештайнер, Александр Соловьев (справа налево)

Вручение сертификата «Международный инженер-педагог» Алаа Ашмави, Торстену Франсону, Кришне Ведула (справа налево)

the other participating and organizing organizations, and above all, all participants, especially the members of the Global Student Forum. At the same time, Axel Zafoschnig presented to other special Awards to the organizing Head of the School of Engineering at the American University of Dubai, Alaa Ashmawy, for his outstanding achievements in the organization of the WEEF 2014 conference, and to Jose Carlos Quadrado for his outstanding active work as IFEES President over the last two years.

In the end, IGIP as the International Society for Engineering Pedagogy can draw a very positive balance of the 2014 WEEF in Dubai, because it has not only managed to intensify its international cooperation with other societies dedicated to engineering education, but it has also left a sustainable impact on the global engineering education

community through its professional speakers and presenters who provided new and attractive information on new trends and tendencies in engineering pedagogy. IGIP has also presented itself highly successfully as the only engineering pedagogy institution across the globe that offers individual accreditation of engineering educators, namely with the title of Ing. Paed. IGIP, the “International Engineering Educator”. Many individual but also institutional members of the engineering education community have approached IGIP because of this program and wanted to become either IGIP individual members, IGIP cooperate members or IGIP training centers. This is why it may be said in conclusion that the WEEF 2014 conference in Dubai has been another milestone in the development of IGIP as a successful engineering education society.

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#### УЧАСТИЕ IGIP ВО ВСЕМИРНОМ ФОРУМЕ ПО ИНЖЕНЕРНОМУ ОБРАЗОВАНИЮ

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**Аннотация.** В статье содержится информация о достижениях Международного общества по инженерной педагогике (IGIP) в процессе подготовки и проведения Мирового форума по инженерному образованию 2014 г. Члены IGIP принимали активное участие в

организации Форума, представляли доклады на пленарных и многочисленных секционных заседаниях, подвели итоги конкурса на получение основных наград общества.

**Ключевые слова:** инженерная педагогика, Международное общество по инженерной педагогике (IGIP), всемирное сообщество инженерного образования, аккредитация, разработка программ, развитие профессионального непрерывного образования

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## КАКИМ БЫТЬ СОВРЕМЕННОМУ ИНЖЕНЕРНОМУ ОБРАЗОВАНИЮ? (Размышления участников форума)

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*Аннотация. В статье обсуждаются точки зрения на то, какими должны быть в наши дни цели, содержание, методы и средства обучения, а также методы оценки учебных достижений в инженерном образовании, которые были представлены на Всемирном форуме по инженерному образованию WEEF 2014.*

*Ключевые слова: инженерное образование, Всемирный форум по инженерному образованию WEEF 2014, инженерная педагогика, студентоцентрированное обучение, проектно-ориентированное обучение, PBL*

### Введение

В декабре 2014 г. в Дубае (ОАЭ) под девизом «Инженерное образование для мирового сообщества» проходил Всемирный форум по инженерному образованию (WEEF 2014). Главным организатором таких ежегодных форумов является Международная федерация обществ инженерного образования (IFEES) (<http://www.ifees.net/about/>). Поставив перед собой цель создания всемирной сети, связывающей между собой всех, кто заинтересован в развитии и совершенствовании инженерного образования, IFEES проводит подобные мероприятия в разных странах. Последние форумы проводились в Картахене, Буэнос-Айресе, Лиссабоне, Сингапуре, в следующем году запланирована встреча во Флоренции, а затем – в Сеуле. Подобное разнообразие оправдано, так как преподаватели, студенты, аспиран-

