



UNESCO International Centre for Engineering Education



Newsletter

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From the Director

It was a busy period for the UICEE between now and the March issue, when our efforts were concentrated on preparations for the *2nd Global Congress on Engineering Education*. Readers will find a brief report on the Congress below.

One important issue emerged while preparing the Congress; the globalisation of engineering education is now well and truly established with many benefits for engineering educators worldwide. However, there is a big disparity in terms of benefits received between those in developed and those in developing nations. So far, only one nation and one particular culture seems to be dominating this process and reaping the most rewards, mostly at the expense of poor and developing nations. This is especially so when analysing the opportunities for academics from developing nations to attend important meetings, such as the *2nd Global Congress*. These people would benefit the most from participation, and yet there is no international agency that would financially support their expenses.

It seems that in this era of globalisation this matter must be addressed. The United Nations appears to be in the best position to remedy this deficiency. There is a lot of money available in the developed world, but only very few wish to share these resources with the developing world.

2nd Global Congress

An extremely successful *2nd Global Congress on Engineering Education* was held at the University of Technology, Business and Design (Hochschule Wismar) in Wismar, Germany, from 2-7 July.

Over 150 international academics, industry, government and professional association representatives from over 30 countries, including many rectors, vice-rectors and engineering deans, attended the Congress and presented their papers. Close to 120 paper presentations were made, most

of which are included in a hardbound volume of Congress Proceedings.

Four opening addresses and 20 keynote presentations were made and all touched on a diverse range of issues of importance to engineering and technology education, and were televised on the Internet. The addresses were followed by open discussions to ensure more interactive participation in the Congress.

The Congress aired and addressed experiences within the global engineering education community in the context of rapidly changing technology and production processes.

This important gathering has set the stage for advanced global collaboration to be strongly promoted and pursued by the UICEE.

Apart from the excellent academic program, the Congress provided several opportunities for enjoyment and interaction through its rich and exciting social program. This gave the opportunity for participants to get acquainted with the historical beauty of Wismar and its surroundings, as well as the warm hospitality of its people.

This Congress also generated interest from the German media, with many radio and newspaper interviews being conducted. Such an international event helps raise public awareness and recognition regarding the importance of

engineering education. Several highly positive responses regarding the Congress programs have already been received from Congress attendees representing different cultures.

The photo shows Prof. Rolf Eggert, Minister for Economic Affairs of Mecklenburg-Western-Pommerania, Federal Republic of Germany, presenting his Opening Welcome at the *2nd Global Congress on Engineering Education*.



Prof. Dr Rolf Eggert, Minister for Economic Affairs of Mecklenburg-Western-Pommerania, Federal Republic of Germany.

UICEE Partners



Badge of Honour Awards

Several outstanding international engineering academics were awarded either the UICEE Gold or Silver Badge of Honour for *distinguished contributions to engineering education, outstanding achievements in the globalisation of engineering education through the activities of the Centre, and, in particular, for remarkable service to the UICEE* on the occasion of the 2nd Global Congress on Engineering Education, held in Wismar, Germany.

A Gold Badge was awarded each to Prof. Colin U. Chisholm of Glasgow Caledonian University, Glasgow, Scotland, United Kingdom, and Prof. Norbert Grünwald of Hochschule Wismar, Wismar, Germany. Only two Gold Badges have ever been awarded previously since 1997, so the 2nd Global Congress was quite a momentous event.

The recipients of the Silver Badge of Honour were: Prof. Gregor Büchel from University of Applied Sciences Köln, Köln, Germany; Prof. Fong-Ming Lee of Chinese Culture University, Taipei, Taiwan; Prof. George G. Rogozin from Donetsk State Technical University, Donetsk, Ukraine; and Prof. Algirdas V. Valiulis of Vilnius Gediminas Technical University, Vilnius, Lithuania; while Prof. Adinarayana Kalanidhi, Vice-Chancellor of Anna University, Chennai, India, received his in an earlier ceremony at the UICEE Dinner in the beautiful castle at Schwerin, near Wismar.

Staff, students and associates of the UICEE congratulate the awardees on this occasion of receiving these prestigious awards.

Best Paper Awards

Participants at the 2nd Global Congress of Engineering Education selected papers that had been included in the volume of Congress Proceedings and had also been presented. Five papers were selected by popular vote, with the awards covering the five categories of Diamond, Platinum, Gold, Silver and Bronze.

The Diamond award was conferred to F.-M. Lee from Chinese Culture University, Taipei, Taiwan for his keynote address on cultural differences and unity in engineering education.

The Platinum award went to P. Eyerer, B. Hefer (both from Fraunhofer Institute for Chemical Technology in Pfinztal, Germany) and D. Krause (from University of Stuttgart, Stuttgart, Germany) for their keynote address covering the reformation of technical education using project-oriented education.

The Gold award was presented to S. Kolari from Tampere Polytechnic, Tampere, Finland, and C. Savander-Ranne from Helsinki Polytechnic, Helsinki, Finland for their paper on student learning.

The Silver award was bestowed on N. Grünwald and D. Schott, from the University of Technology, Business and Design, in Wismar, Germany for their opening address on World Mathematical Year 2000.

The Bronze award was accorded to H. Ewald of University of Technology, Business and Design, in Wismar, Germany, and G.F. Page of John Moores University in Liverpool, United Kingdom, for their paper concerning experiments performed over the Internet.

Expanded versions of these excellent but diverse award papers will be published in the *Global Journal of Engineering Education* in the near future.

ILG-EE

The 2nd Global Congress provided the venue for the 13th Annual Meeting of the International Liaison Group for Engineering Education (ILG-EE). Many issues of relevance were raised at the meeting, including

expanding the role of the ILG-EE and discussions on the future activities of engineering and technology education.

High on the agenda was the issue of the program of conferences, including the venue of the 3rd Global Congress on Engineering Education, which has yet to be finalised. However, the objective of the UICEE conferences continues to be to serve the international engineering education community and to raise the profile of engineering education on the global scene. Potential support for activities to be carried out in developing countries was also debated.

German Issue of the GJEE

The special issue of the *Global Journal of Engineering Education* (GJEE), Vol.4, No.2, has been published entirely in the German language. This has been in conjunction with the 2nd Global Congress, held in Germany.

Prof. Norbert Grünwald, Dean of the Faculty of Mechanical and Environmental Engineering at Hochschule Wismar, University of Technology, Business and Design in Wismar, Germany, is Guest Editor of this issue.



The photo shows the two Gold Badge of Honour awardees at the 2nd Global Congress of Engineering Education, (l-r) Prof. Norbert Grünwald and Prof. Colin U. Chisholm.

Articles in this special issue have been gathered from all across Germany, and feature some strong and pertinent advancements in the field of engineering education with both regional and international significance.

By publishing in German, this issue targets engineers and educators for whom German may be the first or second language. This empowers those whose English skills may not be so strong, and reinforces the international nature of engineering education in the global community.

Furthermore, this issue signifies a special milestone for the UICEE, where the exchange of information on engineering education through the GJEE is no longer confined to the English language, thereby increasing the accessibility for engineering educators worldwide.

The globalisation process must go through many different cultures, and consequently through different languages. This is the expression of a new approach to globalisation, where the global vision is not dominated by one nation, but rather one vision where all cultures can contribute. This presents a new sense of unity through diversity, embracing the solidarity of humankind, and thereby realising part of the UICEE's mission.

The opportunity now presents itself for other global languages, such as French, Spanish, Portuguese or others to participate in future special issues of the GJEE.

Next Issue of the GJEE

A special edition of the GJEE, entirely dedicated to the 2nd Global Congress will be published in Vol.4, No.3 later this year. It is envisaged that this issue will include expanded and revised award papers plus other presentations, as well as selected keynote addresses.

This time again, Prof. Norbert Grünwald has been invited to be the Guest Editor of this issue.

German Network

The growth and participation in the *German Network of Engineering Education* has evolved considerably over the last few years. The first official meeting of the *German Network* was held on the last day of the 2nd Global Congress, under the chairmanship of Prof. Norbert Grünwald.

This meeting included a brainstorming session conducted by Prof. Klaus-Jürgen Peschges of Fachhochschule Mannheim in order to elicit issues of importance and relevance to German engineering education. This will enable the formulation of an action-oriented agenda for the *German Network of Engineering Education*.

UICEE Partners Meeting

The 2nd UICEE Partners Meeting was held in conjunction with the 2nd Global Congress on the Saturday immediately preceding the Congress. Issues of

major importance and concern were raised and discussed during the meeting. UICEE Partners presented their activities and accomplishments achieved in the period since the last meeting in February in Hobart, Australia.

The meeting has helped to established several new collaborative initiatives and projects. It has been decided that the next meeting of UICEE Partners will be held before the 4th UICEE Annual Conference on Engineering Education to be held in Bangkok, Thailand, in February 2001.

Ryerson Centre

The Ryerson Centre for Engineering Education, a satellite centre of the UICEE, has been successfully established in June 2000 at the Faculty of Engineering and Applied Sciences at Ryerson Polytechnic University, Toronto, Canada, with Prof. William E. White as its Foundation Director. We are confident that Bill White will bring a wide range of experience to this position, as he was previously Dean of the Faculty. He has presented the Centre's mission, objectives and activities in his comprehensive keynote address at the 2nd Global Congress, co-authored by Prof. Derek O. Northwood, current Dean of the Faculty.

It is anticipated that this Centre, which will focus on research, development and application of multimedia in engineering education, will strengthen the UICEE's network of satellite centres and collaborators. We wish Bill and Derek all the success in their new venture.

South Asia Centre

We are also delighted to announce the commencement of operations at the South Asia Centre for Engineering Education at Anna University, Chennai, India, as a satellite centre of the UICEE, under the leadership of the Vice-Chancellor of Anna University, Prof. Adinarayana Kalanidhi.

Prof. Kalanidhi made an extensive presentation of the Centre and its role and activities in a keynote address delivered to the 2nd Global Congress. During the presentation on one of his presentation slides, Prof. Kalanidhi stated that *Anna University is thankful to the UICEE for accepting the partnership for promoting the technical education in South Asian region.*

We wish Prof. Kalanidhi and his staff much success in this important endeavour.

UICEE Annual Conference

The 4th UICEE Annual Conference on Engineering Education is slated to be held from 7-10 February 2001 in Bangkok, Thailand. This is a country with a wealth of beauty and a historical heritage, with Bangkok being one of South East Asia's biggest business centres and one of the world's favourite tourist destinations.

Preparations are well underway, and a call for papers

can be found on the UICEE's website, under *Conferences and Meetings*. The theme of this Conference is *Innovation in Engineering Education*, but papers are welcome from across the spectrum of engineering education.

As an expression of the promotion of institutions in South East Asia through the UICEE, four Thai universities will be co-sponsoring this event, indicating the strength of commitment of these institutions in collaborating for the progressive future of engineering education in the region. These four Thai universities are: King Mongkut's University of Technology, Thonburi; Kasetsart University, Bangkok; Khon Kaen University, Khon Kaen; and Thammasat University, Prathutani.

Graduate Courses

The 2nd meeting of the international team of developers of the Graduate Course in Engineering Education (GCEE) was convened immediately after the Closing Ceremony of the 2nd *Global Congress*. Half a dozen presentations were made showing the progress in developing individual subjects envisaged in the GCEE.

We are pleased to inform that substantial advancement has been made since the last meeting in Hobart, Australia, especially with the development of GCEE07: *Educational Technology & Computers in Engineering Education*, by the Ryerson Centre for Engineering Education.

The next gathering of the team of developers will be held in conjunction with the 4th *UICEE Annual Conference on Engineering Education* in February 2001 in Bangkok, Thailand, with the objective to finalise some of the courses soon after.

European Collaboration

The UICEE Director and Prof. Norbert Grünwald of Hochschule Wismar, Wismar, Germany, paid a visit to the Higher Educational Professional School (HEPS) in Tarnów, Poland, to facilitate the establishment of a collaborative venture between Hochschule Wismar and HEPS.

Potential areas for collaboration have been identified and discussed at a meeting with Prof. Adam Juskiewicz, Rector of HEPS in Tarnów and Prof. Stanislaw Mitkowski, Vice-Rector of HEPS, on 15 May 2000.

High on the agenda was the possibility of prepa-

ration of an application for financial support from the European Union. Further work on this collaborative project will continue in September this year.

HEPS is one of the dozen or so professional state schools recently established in Poland in different regional towns during 1998, along the policies put in place by the recent *Reform of the Educational System* in Poland.

Urban Design Leadership

An innovative urban design course titled *Leading by Design – Managing for Better Environments* was held over one day and run by the UICEE's Urban Design Education Programme on 7 April 2000. This sought to address the relevant issues for councillors and executives regarding the current form and density of the city and the real needs of the community, and provided the opportunity for councils and the private sector to

look at how councils can provide leadership in the development of local urban design strategies and visions.

Four modules were designed to enhance participants' skills, and covered: vision setting; establishing the management process; skills and administrative setting; and communicating the agenda for urban development and the urban design process. Local case studies from Melbourne and Sydney were utilised to focus the course's structure.

The presenters came from a diverse range of professional backgrounds, and generated examples from their extensive experience. The course finished with a general discussion, which included the Hon. Justin Madden, MLC, Minister Assisting the Minister for Planning, from the Victorian State Government.

Thirty-five persons attended the course, and covered a broad cross-section of urban development managers including Mayors, Councillors, CEOs, Directors and Managers of relevant departments in Local Governments from across the state of Victoria, as well as private sector representatives. Overall, it received excellent feedback and an enthusiastic response from participants.

The success of this course has resulted in the next stage being developed. This subsequent course is being designed with practitioners in mind and is scheduled to be held from 3-4 August.

A collection of the issues raised and covered in this important first course will soon be published, and will be part of the UICEE's *Monash Engineering Education Series*.



The picture above shows participants of the meeting in Tarnów, which included (l-r): Prof. A. Juskiewicz, Prof. Z.J. Pudlowski, Prof. N. Grünwald and Prof. S. Mitkowski.