
Guest Editorial

The nature of the world and workforce around us is changing at a dizzying pace. Changes in industry are accompanying the increasing globalisation of the economy. From this arise new challenges and changes to the profession and calls for the necessary reform in higher engineering education.

The world has already made considerable progress on the way to an information and knowledge society. In this expanding society, the demands on our professional engineers are continually changing and evolving. It is no longer the case that high-level expert knowledge will guarantee a successful career, for this knowledge may sometimes become obsolete overnight. In the higher engineering education process, we must develop new teaching and learning methods to enable our future engineers to acquire new knowledge with the help of new information and communication technologies as a tool on a daily basis.

Here in Germany, technology is all too often regarded as inhuman and in opposition to nature. This is despite everyone being aware of the fact that it is only with technology that solutions can be found to tackle the food problems, environmental issues, as well as the energy and supply problems of what is still a rapidly growing world population. We must educate our future engineers to have a sense for the responsible utilisation of our limited resources and for the sustainable management of our environment.

In addition, tomorrow's engineers will have to be able to communicate on a worldwide basis. These ideas have to be implemented in the engineering curriculum. Even in these days of the Internet and videoconferencing, personal contacts are crucial, and we must place greater emphasis in engineering education on acquiring the necessary interpersonal skills in higher education courses than we have done in the past.

We have to develop the ability to comprehend, assess and, where appropriate, apply new knowledge, irrespective of what part of the world it may have evolved from. In other words, we have to internationalise the education of our engineers in order to be able to cooperate in the international knowledge society.

These topics are the current missions in the educational process at Hochschule Wismar - University of Technology, Business and Design, in Wismar, Germany. This rapidly changing world is not only a global market of goods, trade and money; it is also a global market of ideas, and it is our duty to always search for the best. International conferences are the best marketplaces for the exchange and development of ideas, the establishment of personal contacts and the creation of international networks for developing engineering education.

First there was a very successful joint international Seminar between the UNESCO International Centre for Engineering Education (UICEE) and Hochschule Wismar in May 1998 in Wismar, titled the *90th Anniversary*



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Jubilee Seminar on Engineering Education. And after that, Hochschule Wismar was proud and honoured to have had the chance to host the 2nd *Global Congress on Engineering Education* from 2 to 7 July 2000 in Wismar.

The Congress was organised by the UICEE in collaboration with Hochschule Wismar, and was attended by about 150 people from over 30 countries from around the globe. At this point, let me express my sincere gratitude to the entire local organising team for their assistance in preparing and running such an international focal point in engineering education at our University.

A *German Day* was also organised within the framework of the 2nd *Global Congress on Engineering Education*. This was held on Friday, 7 July 2000, with one special session featuring a meeting of the *German Network on Engineering Education*. This was attended by 16 representatives from seven German universities and included international guests, among them the editors of two international journals (Prof. Z.J. Pudlowski of the *Global Journal of Engineering Education* and Prof. M.Wald of the *International Journal of Engineering Education*). One result is the establishment of an annual issue of the UICEE's *Global Journal of Engineering Education* (GJEE) entirely in the German language, subject to the availability of support, with the first issue published as Vol.4, No.2.

In a *brainstorming* session, the participants discussed the situation and potential developments in German engineering education, covering the following three prime areas:

- Weaknesses in German engineering education, aiming at *solutions for the future*.
- Strengths in German engineering education, aiming at *solutions for the future*.
- The future of engineering education and aspects that need to be considered.

It is envisaged that these resulting problems, challenges, opportunities and ideas will be the topics of an annual *German Seminar on Engineering Education* series, targeted to commence in 2001 at Mannheim and followed in 2002 at Wismar.

This current issue of the GJEE features outstanding and award papers, opening and keynote addresses dealing with diverse but extremely relevant topics presented at the 2nd *Global Congress on Engineering Education*.

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