



UNESCO International Centre for Engineering Education



Newsletter

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From the Director

Our overseas members may be interested to know that the 50th anniversary of the Snowy Mountain Hydro-Electric Scheme was celebrated in Australia in October 1999. By all standards this was the most important engineering project ever undertaken in Australia and helped to develop the nation's hydro-energy and irrigation potential to a level unknown in any other country at that time.

The project involved the most up-to-date technology and techniques and had enormous significance for the manner in which Australian engineering and engineering education developed. At least as significant was this project's contribution to the development of Australia's multi-cultural society. Over forty nationalities participated in this project, many of them new arrivals from war-torn Europe seeking to build new lives, a parallel achievement to the mammoth construction they undertook.

While it is doubtful that in today's more environmentally charged climate such a project would be possible, I do believe that with the rapid expansion of the world's population, hydro-electric and irrigation schemes have much to offer.

We would like to salute those brave men and women who gave their youth, and in the case of one hundred and twenty workers, their lives, to this monumental project.

New Director General

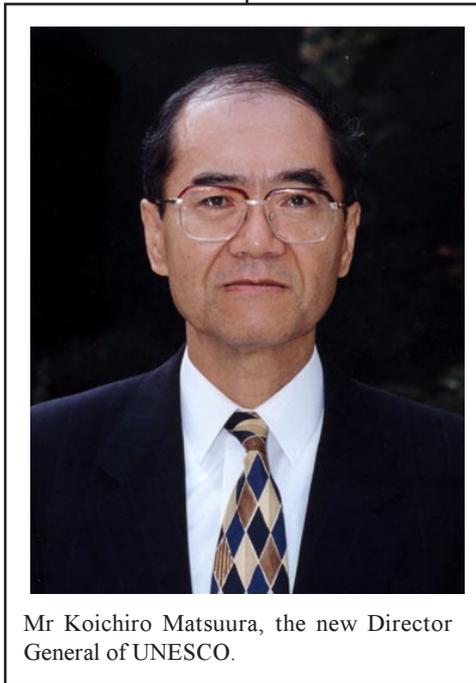
The General Conference of UNESCO, comprising of representatives from 188 Member States, at its 30th Session, appointed Mr Koichiro Matsuura as Director General of UNESCO. Mr Matsuura was appointed on 12 November 1999 to serve a six-year term, and was chosen by the Executive Board of UNESCO from several prominent international figures. Mr Matsuura received an

overwhelming support in a secret ballot carried out at the General Conference, and will be the ninth Director General in the history of UNESCO.

Mr Matsuura has an outstanding record of diplomatic engagements both in Japan and abroad, including the Chairmanship of the UNESCO's World Heritage Committee.

Staff, students and associates of the UICEE wish to congratulate Mr Matsuura on his appointment and look forward to the opportunity of briefing the new Director

General on the status, activities and achievements of the UICEE.



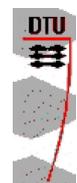
Mr Koichiro Matsuura, the new Director General of UNESCO.

Badge of Honour Awards

On the occasion of the 3rd Baltic Region Seminar on Engineering Education four outstanding engineering educators were awarded the UICEE's 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.*

The awards went to Professor Claes Niklasson, Head of the Department of Chemical Reaction Engineering, and Professor Said Irandoust, Vice-Rector, both of Chalmers University of Technology, Göteborg, Sweden. The other recipients were Professor Krzysztof Kluszczynski of the Silesian Technical University, Gliwice, Poland, and Professor Alexei Nesterov, Director-General of the Russian Association for Engineering Education.

UICEE Partners



Staff, students and associates of the Centre wish to congratulate the awardees.

Baltic Region Seminars

Last September saw the staging of the 3rd *Baltic Region Seminar on Engineering Education* at Chalmers University of Technology, Göteborg, Sweden. It was an extremely successful meeting with over sixty international participants, representing twenty-one countries; more than fifty paper presentations were made and these will be published in a special volume of seminar proceedings. This series of seminars has gained momentum with an ever-increasing number of papers and participants.

It has been decided that the 4th *Baltic Region Seminar on Engineering Education* will be organised by the UICEE and hosted by the Technical University of Denmark (DTU) between 1 and 3 September 2000 in Copenhagen, Denmark. The DTU will provide excellent infrastructure and has already allocated human and financial resources for this exciting venture.

Moreover, Copenhagen will provide a beautiful setting for the Seminar and for its Accompanying Persons Social Programmes. It is hoped that participants will be able to visit Hamlet's famous castle at Helsingør.

A call for papers will soon be circulated.

3rd UICEE Conference

Preparations are in full swing for the 3rd *UICEE Annual Conference on Engineering Education* and the UICEE's *Workshop on the Development of Graduate Courses in Engineering Education*, both to be held at the University of Tasmania, Hobart, Tasmania, Australia, between 7 and 12 February 2000.

We have received close to one hundred paper proposals from some very senior educators worldwide, and more papers continue to arrive.

It is envisaged that a meeting of the UNESCO International Committee on Engineering Education (ICEE) will take place in conjunction with these events.

UICEE members and other interested parties are cordially invited to attend this important gathering of international engineering educators.

Graduate Courses

At the request of UNESCO's International Committee on Engineering Education (ICEE), the UICEE has been asked to develop and implement a range of graduate courses in engineering education with the objective of facilitating academic teaching staff development.

Concerned with the level of preparedness of engineering

academic staff to teach the discipline, the UICEE Director first became involved with the objectives of this project many years ago when teaching at The University of Sydney in 1988, although his interest in the area goes back considerably further. He proposed a range of courses in engineering pedagogy and education to be implemented concurrently with undergraduate engineering and technology programmes but the plan met with little interest in the engineering establishment at the time. Finally, under the pressures brought about by the influx of new technologies, amongst other things, the situation has become critical for engineering education and many universities are now trying to establish and implement staff development

programmes in engineering education. And so it was with some delight that he took up the opportunity to revive this project.

An invitation has been circulated globally to individuals and faculties to take part in this exciting development by offering their expertise and eagerness to develop multi-media teaching material for a subject or part of a subject.

It is envisaged that these courses will be offered externally using the Internet and/or satellite transmissions, the medium has yet to be decided. It is intended that the material will facilitate self-study and be as interactive, and with as wide a range of examples, as possible.

A two-day workshop concerning the programmes will be held from 7-8 February 2000, prior to the 3rd *UICEE Annual Conference on Engineering Education* at the University of Tasmania, Hobart, Tasmania, Australia, which commences on 9 February 2000. The interest shown in the project and in attendance at the workshop and Conference has been remarkable.



President of Chalmers University of Technology, Prof. Jan Eric Sundgren, opening the Seminar.

New partners

The Centre is delighted to announce the establishment of three new partnership since the last Newsletter was distributed in July.

Professor Derek O. Northwood, Dean of the Faculty of Engineering and Applied Science, Ryerson Polytechnic University, Toronto, Canada, signed an agreement on 30 July 1999. An immediate objective of this collaboration is the establishment of a *Ryerson Centre for Engineering Education* (RCEE) in Toronto.

Early August saw Chalmers University of Technology, Göteborg, Sweden, coming on board as a partner.

A Memorandum of Agreement on Partnership was signed by the Rector of

the Technical University of Denmark (DTU), Professor Hans-Peter Jensen, and the UICEE Director on 1 September 1999. Under this agreement the existing *Centre for Engineering Educational Development* (CDM) at the DTU has become a satellite centre of the UICEE and will become a regional centre serving the Scandinavian region in the field of engineering education. Particular emphasis in the work of the Centre will be placed on research into the methodology of engineering education.

The partnership with the Technical University of Denmark will enrich the so-called *UICEE Family of Engineering Educators* and will strengthen the entire UICEE network of collaborators. It is hoped that our other new partner, Chalmers University of Technology, will join us in this exciting endeavour.

UNIDO

The UICEE Director visited the United Nations Industrial Development Organisation (UNIDO) headquarters in Vienna, Austria, where he briefed Mr Antonio Pinto-Rodrigues and Mr J.M. de Caldas Lima

of the Investment and Technology Promotion Branch on the activities and achievements of the UICEE. The discussion covered several issues for collaboration and potential sponsorship of the UICEE by UNIDO.

The Director was also invited to visit the UNIDO International Centre for Science and High Technology, which is located in the AREA Science Park, Trieste, Italy, where he

had the opportunity to exchange information with Professor Stanislav Miertus, AREA Coordinator, and Dr Tatsushi Kurobuchi, Programme Officer, on the activities of both Centres. Possibilities for collaboration between the Centres in their shared commission to transfer information, in the case of one on high technol-

ogy, and the other on engineering education, were explored.

Ministerial Award for the Director

Last October the UICEE Director received an award from the Minister of Education of the Republic of Poland for his contribution to the establishment of the International Faculty of Engineering (IFE) at the Technical University of Lodz (TUL), Lodz, Poland. He has been the Foundation Dean of the IFE and Professor (in absentia) since 1992.

During the first crucial years of the organisation of the IFE, the Director led a team of several local academics, including the then Rector of the TUL Prof. Jan Kryszynski, who dedicated their time and effort to this enterprise.

The IFE was originally organised to offer a program in mechatronics with English as the main medium of instruction, and commenced its operation in October 1993. Now it offers



The photo shows Prof. Hans-Peter Jensen and A/Prof. Zenon J. Pudlowski signing the agreement.

three undergraduate degree programs given in English and French, catering for more than 400 students from Poland and abroad. The Faculty produced its first graduates in 1997. Most of them decided to continue their academic career by enrolling in higher degree programs, with others undertaking their professional career in local and international industrial organisations.

It is worthwhile mentioning that the IFE is the only initiative of its kind in Poland.

Volta Medal

In September the UICEE Director was awarded the *Volta Silver Medal* by the ancient University of Pavia on the occasion of the two hundredth anniversary of the invention of the electric battery by Alessandro Volta. The invention of the battery by Volta revolutionised science, and indeed laid the foundation for the advancement of electrical engineering.

The commemorative medal was awarded: *For his contribution to the success of the International Symposium of Electromagnetic Fields in Electrical Engineering – ISEF'99*. ISEF'99 was one of a series of international gatherings held in 1999 to commemorate Volta's invention and was attended by close to 150 participants from over thirty countries.



Professor R. Schmid, Rector, University of Pavia (l), presenting the UICEE Director (r) with the Volta Medal, overseen by Dr Paolo Di Barba of the University of Pavia, Chairman of the Seminar Organising Committee.

Dr E. Baum visits UICEE

Professor Dr Eleanor Baum, Dean of Engineering at the Cooper Union for the Advancement of Science and Art, New York, USA, visited the UICEE and delivered a seminar titled *ABET 2000 Criteria* on 12 November 1999. Organised under the UICEE's Distinguished Visitors Seminar Series, the seminar presented the results of discussions held recently in the USA between engineering educators and industry personnel, concerning the attributes required by engineers in the new millennium.

Dr Baum is an outstanding engineering educator who has held many important positions in professional organisations. She is presently Chair of the Washington Accord and the former President of National Engineering Deans Council, the American Society of Engineering Education (ASEE), the Accreditation Board for Engineering and Technology (ABET), and others.

The introduction of these criteria by the Accreditation Board for Engineering and Technology will have tremendous implications on the accreditation process globally and in Australia, as Australia is a member of the Washington Accord. Dr Baum's presentation resulted in a lengthy discussion with many interesting issues raised by participants, and excellent responses from the speaker.

The UICEE is grateful to Dr Baum for her visit and looks forward to many more returns to Australia in the future.



Prof. E. Baum accompanied by Prof. M. L. Brisk (l), Dean of Engineering at Monash University and A/Prof. Z.J. Pudlowski, UICEE Director.