



UNESCO International Centre for Engineering Education



Newsletter

Volume 13, Issue 1

March 2006

From the Director

The value of education, especially higher education, and its role as a national investment has not, unfortunately, been given proper attention and credence. This has been due to many factors, including the long tradition that this is the responsibility of the government to ensure the provision of higher education, and that the taxpayer demands the supply of quality education free of charge. Several countries have recently challenged this concept with great success, through the emergence of an alternative market of private schools, providing a variety of choices for quality education at a price. In one of my previous messages, I mentioned the role and gradual expansion of such rising powers, in terms of providing quality tertiary education, as India and China. This trend is also followed by several smaller countries in Asia.

The publication of this issue coincides with the 25th anniversary of my arrival in Australia on 24 March and, as such, it has evoked an interesting thought on how the two lovely countries of mine compare with their approaches towards the *business* of higher education.

As a small nation, in terms of its population, Australia is a powerful global provider of higher education with its annual revenue extending over \$10 billion, and has done extremely well in this respect. However, it seems to me that Australian universities are now reaching complete saturation based on the existing physical and intellectual infrastructures. Hence, the current tendency is to establish offshore colleges in order to keep the momentum in terms of expanding the business of education.

Poland, on the other hand, since the collapse of the centralised economy in 1989, has tremendously expanded its higher education

base. To some extent, this was achieved by raising the number of students in state-owned universities, but, unfortunately, at the expense of the quality of provision. Against this background, and with proper legislations in place, a strong private higher education sector has recently emerged with over 260 academic institutions providing new and exciting opportunities for those eager to receive quality education at a certain cost.

The obvious fact is that education has become a commodity and nobody now should be ashamed by running the business of education. Therefore, it seems to me that something needs to be done urgently to encourage the private sector in Australia to invest in higher education by creating private universities and colleges, where alternative methods of education, better institutional management, more efficient recruitment of staff, implementation of new initiatives, etc, may be more easily conducted and tested. The corporate sector in Australia must realise the fact that the return from investment in higher education may be much greater and stable than by running the so-called *traditional* businesses, an experience learnt long ago in such countries as the USA, Japan and

Korea. Indeed, recent OECD studies indicate that private education is an excellent business for education, the country, its people and investors, serving to build a future that we can all be proud of and participate in.



The picture shows HE Dr Yahya bin Mahfoudh al Mantheri, Chairman of Majlis Addawla, inaugurating the 9th UICEE Annual Conference.

9th UICEE Conference

The very successful 9th UICEE Annual Conference on Engineering Education, which was held from 11-15 February 2006, was staged in Muscat, Sultanate of Oman, with wonderful local support and hospitality provided by Caledonian College of Engineering



(CCE), a Partner institution of the UICEE. The Conference venue was the welcoming Crowne Plaza Hotel, located on the coastline, rich with history.

The Opening Ceremony of the 9th UICEE Annual Conference was held on Saturday, 11 February, and incorporated various guests and high-ranking dignitaries. The Opening Welcome was given by Prof. Frank McIntosh, Principal and Dean of Caledonian College of Engineering in Muscat, Oman, and Conference Honorary Chairman. Importantly, this was followed by the Inauguration given by His Excellency Dr Yahya bin Mahfoudh al Mantheri, Chairman of Majlis Addawla, a close advisor to Sultan Qaboos. The photo on the front page shows His Excellency delivering his speech.

The Opening Welcomes came next, first by HE Dr Abdullah bin Mohammed Al Sarmi, the Undersecretary of the Ministry of Higher Education of the Sultanate of Oman, and Dr P. Mohammed Ali, Managing Director of Galfar Engineering and Contracting LLC, Muscat, Oman, representing the Conference Principal Industrial Sponsor of this momentous event. Indeed, Dr Ali noted that *the role of engineers is very crucial in the development of nations*. It should be noted that the Opening Ceremony was also attended by HE Shaikh Abdullah bin Salim al Rowas, Minister of Regional Municipalities, Environment and Water Resources. The photo at top shows Dr P.M. Ali presenting his address.

In his Introductory Address, the UICEE Director, Prof. Zenon J. Pudlowski, Conference General Chairman, set the stage for the five-day Conference held under the general theme, *International Quality in Engineering Education*, by stating the importance of the role of engineers in the development of nations and highlighting the paramount objectives of this international gathering.

It should be emphasised that the Conference attracted considerable media coverage, including a relevant news story that was published in the *Oman Daily Observer*, the leading daily newspaper in Oman, on Sunday 12 February 2006, entitled *Top experts attend meet on engineering education*. Such media coverage contributes significantly



The photo shows Dr P. Mohammed Ali giving his insightful address in Muscat, Oman.

to the dissemination of information on the UICEE and its achievements in the global arena.

On the occasion of the Conference Gala Banquet of the 9th UICEE Annual Conference on Engineering Education, held on Tuesday, 14 February, the UICEE Director was proud to present several UICEE awards. Prof. Colin U. Chisholm from Glasgow Caledonian University, Glasgow, Scotland, UK, received the inaugural *UICEE Order for Excellence in Engineering Education* for his meritorious and outstanding contributions to global engineering education.

One Gold and two Silver Badges of Honour for *...distinguished contributions to engineering education, outstanding achievements in the globalisation of engineering educa-*

tion through the activities of the Centre, and, in particular, for remarkable service to the UICEE were presented. Firstly, Prof. Frank McIntosh from Caledonian College of Engineering (CCE) in Muscat, Oman, received the prestigious Gold Badge of Honour, while Tess Goodliffe, also of the CCE, and Adam Charchalis from Gdynia Maritime University, Gdynia, Poland, were each accorded the Silver Badge of Honour. The photo below shows the four proud awardees at the Conference.

A volume of Proceedings has been produced, showcasing the 48 papers presented at the Conference and representing 21 countries. More details can be found on the UICEE Web site.

Best Paper Awards

As at previous UICEE-organised conferences, participants at the 9th UICEE Annual Conference in Muscat, Oman, had the opportunity to cast their



The photo shows the awardees at the 9th UICEE Annual Conference: (l-r) Prof. F. McIntosh, Prof. C.U. Chisholm, Ms T. Goodliffe and Prof. A. Charchalis.

personal vote as to the papers they considered to be the most outstanding presented at the Conference. The winners were announced during the Closing Ceremony of the Conference.

The UICEE Diamond (First Place) Best Paper Award was accorded to D.Q. Nguyen and Z.J. Pudlowski from Monash University, Melbourne, Australia, for their lead paper called *The design of*

engineering curricula in the context of globalisation. It should be noted that the UICEE Director did not accept the award.

The UICEE Platinum (Second Place) Best Paper Award was presented to H.P. Sjursen from Polytechnic University, Brooklyn, USA, for his keynote address entitled *Engineering as philosophical ethics*.

The UICEE Gold (Third Place) Best Paper Award was given to K.J. McDermott and J. Machotka from the University of South Australia, Adelaide, Australia, for their joint paper titled *Reflections on final year project work in engineering programmes*.

The UICEE Bronze (Fifth Place) Best Paper Award was then distributed to three papers, namely: a joint Taiwanese paper from C.Y. Chao, National Changhua University of Education, Changhua; M.Y. Wang, Taichung County Government, Taichung; H.Y. Lee, Changhua County Police Bureau, Changhua; and P.C. Yang, Taichung Girls' Senior High School, Taichung, called *The construction of a baccalaureate curriculum system for industrial technology competences and an instructional quality system*.

The next Bronze Award went to N.J. Mourtos of San José State University, San José, USA, for his lead paper titled *Engineering programme outcomes and assessment: a sustainable, systematic process for continuous improvement*.

The other Bronze Award was presented to J. Machotka and Z. Nedic from the University of South Australia, Adelaide, Australia, for their paper entitled *The incorporation of remote laboratories into on-campus engineering courses*.

It is envisaged that expanded and revised versions of these award papers will be included in a forthcoming issue of the UICEE's *Global Journal of Engineering Education*. Staff, students and associates of the UICEE congratulate these awardees for their efforts and noteworthy contributions.

Gulf Centre Launch

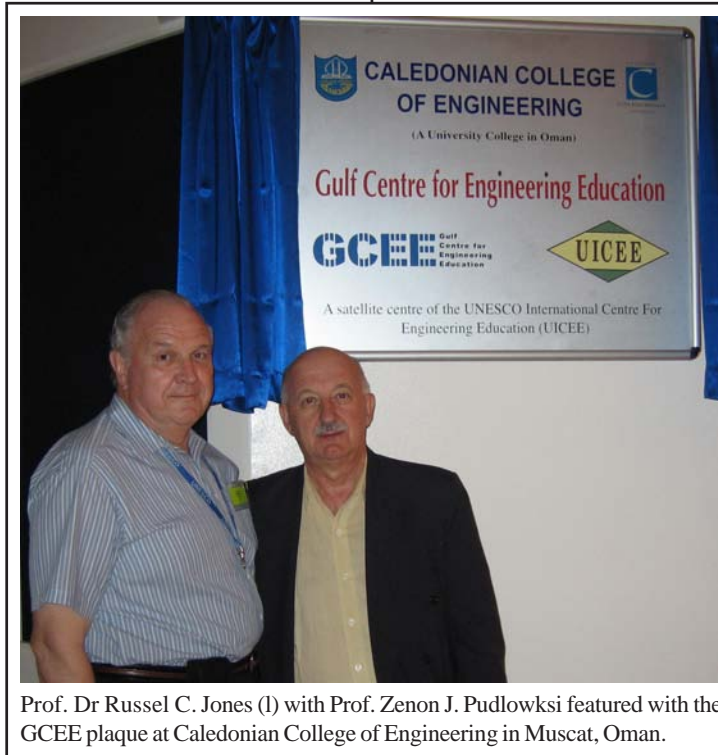
The 9th UICEE Annual Conference also provided the opportunity for the official inauguration of the *Gulf Centre for Engineering Education*, a UICEE satellite centre stationed at Caledonian College of Engineering (CCE). Various guests and dignitaries, including the Guest

of Honour, Dr Said bin Hamad Al Rubaie, Director General, Ministry of Higher Education, Sultanate of Oman, attended this auspicious event on Sunday, 12 February 2006, at the CCE.

Ms Tess Goodliffe, Head, Educational and Personal Development at the CCE, and the Coordinator designate of the GCEE, presented a comprehensive address on the

mission, aims and projected future activities of the Centre. There were also other addresses presented on this occasion, following which the Guest of Honour was kindly asked to unveil a plaque signifying the Centre's inauguration.

The picture shows the chief instigator and prime mover of engineering education activities within UNESCO, Prof. Dr Russel C. Jones (l) with the UICEE Director, Prof. Zenon J. Pudlowski, featured against the GCEE plaque, and both being delighted by the UICEE expansion of its satellite centres in new and ever-developing global locations.



Prof. Dr Russel C. Jones (l) with Prof. Zenon J. Pudlowski featured with the GCEE plaque at Caledonian College of Engineering in Muscat, Oman.

European Tour

Greece

In his continuing commitment to stimulating international activities in engineering and technology education, the UICEE Director travelled to Europe, specifically Greece, after the successful completion of the UICEE Annual Conference in Oman. The major objectives of this visit were to elicit support for the activities of the UICEE from individual academics and higher education institutions in Greece, including potential support provided to the organisation by the UICEE of a major international conference in Greece and Athens, in particular.

His first engagement was a meeting in Athens with Prof. Phil Lokkas of the Technological Education Institute (TEI) of Larissa, Greece. Prof. Lokkas has contributed several papers to UICEE-run conferences in recent years, and is enthusiastic about getting the TEIs in Greece involved in engineering and technology education.

An official visit to the National Technical University of Athens (NTUA) in Athens, including a meeting with the University Vice-Rector, Prof. Manolis A. Dris, was the next engagement of the UICEE Director. After the brief exchange of information on the role and activities of both the NTUA

and the UICEE, the two parties discussed numerous issues of importance to engineering education, as well as the possibility of establishing a formal relationship. The Director had the opportunity to become acquainted with the new and very impressive campus of the NTUA, being located on the outskirts of Athens.

Next on the agenda was a visit to the University of Patras (UP) in Patras, which required a few hours drive to Patras on the Peloponnesus Peninsula. The UICEE Director was given the opportunity to engage in comprehensive discussions with Prof. Alex C. Demetracopoulos, Dean of the Faculty of Engineering at the UP, and had brief meetings with various University officials, including the University Rector, Prof. Christos Hadji-theodorou; the Vice-Rector for Research and Educational Affairs, Prof. George P. Stavropoulos; and the Vice-Rector for Academic Affairs and Personnel, Prof. Panos D. Goumas. The exchange of information with Prof. Demetracopoulos included discussions on the role and activities of both the UP and the UICEE, and the possibility of establishing a formal relationship. Also, the potential academic and logistic support was offered by Prof. Demetracopoulos to the organisation by the UICEE of an international conference in Greece, with the UP playing a pivotal role.

The last official engagement of the UICEE Director was a visit to the Technological Education Institute of Piraeus (TEI Piraeus), in Piraeus-Athens, Greece, where he met with the Institute's President, Prof. Panayotis Kikilias, and Prof. George Metaxas, Head of the Department of Civil Engineering at the TEI Piraeus. The meeting concentrated mostly on the exchange of information on the role and activities of both the TEI Piraeus and the UICEE. The discussions included the possibility of establishing a formal relationship between the two institutions and the potential joint organisation of a major international conference in Greece. Here, too, academic and logistic support was offered for such a joint venture. Face-to-face conversations with Prof. G. Metaxas also included the personal involvement of Prof. Metaxas in such UICEE activities as projects, conferences and



The picture shows Prof. Z.J. Pudlowski (l) and Prof. G. Metaxas engaged in productive and cordial discussions at their meeting in Piraeus-Athens.

publications. The picture at top shows Prof. G. Metaxas and the UICEE Director engaged in very productive discussions.

Hungary

While in Europe, the UICEE Director went to Budapest in Hungary, where he met Prof. Dr Istvan Bilik, Secretary General of the Confederation of Hungarian Conferences on Higher Education (CHCHE), an organisation which has

an agreement on collaboration with the Australian Vice-Chancellors Committee (AVCC). Ms Karolina Owczynik, a postgraduate student at Cornelius University in Budapest, was also present at the meeting. Comprehensive discussions included briefings on each other's organisations and matters of common interest, including possible future collaborative projects and ventures, such as the potential joint organisation of an international conference on engineering education in Hungary. Also, discussed was the issue of promising support from a Hungarian organisation for Ms Owczynik's study in the UICEE at Monash University. During the meeting, Prof. Bilik kindly expressed his willingness to facilitate the establishment of linkages between the UICEE and academic institutions in Hungary. The picture below shows Prof. I. Bilik during the discussions with Prof. Z.J. Pudlowski in the presence of Ms K. Owczynik.

UICEE Helps Kabul

In mid-January, Prof. Richard Larkins AO, Vice-Chancellor and President of Monash University, Melbourne, Australia, alerted the UICEE Director about the extremely difficult situation at the School of Engineering at the University of Kabul in Kabul, Afghanistan, in their struggle to rebuild the School's infrastructure and facilities. In its swift reaction, the UICEE decided to inform its members about this situation by publishing a brief article by Ms Kay Salehi, which can be found elsewhere in this issue.

Also, it was decided to immediately supply the School of Engineering in Kabul with a set of UICEE publications free of charge,



The picture shows Prof. I. Bilik (l), Ms K. Owczynik (c) and Prof. Z.J. Pudlowski at their meeting in Budapest.

the value of which amounted to just over A\$5,000. The publications were dispatched by courier on 3 February 2006. It is hoped that academics in Kabul will be able to find comprehensive information on recent advancements and developments in engineering and technology education, and may single out particular teaching courseware, software and experimental procedures that they may like to use in the School in Kabul. Having identified such relevant new teaching and learning developments, the Dean of the School there may be able to approach those academic institutions and individuals, who reported on them in UICEE publications, with the request to donate such facilities.

We are, indeed, encouraging institutions that possess such facilities, as well as UICEE members, who may possess no longer used equipment, or can spare currently used teaching/learning facilities in engineering education, to consider donating them to the School of Engineering at Kabul University.

New UICEE Partners

Last December, the UICEE acquired a new Partner member coming from North America, that is the Polytechnic University in Brooklyn, New York, USA. The University is a long-established and highly respected institution in the USA, and this year celebrates the 150th Anniversary of its foundation.

Because the information about Partnership was sent later in December 2005, it was decided that the official signing of the Agreement on Partnership between the Polytechnic University and the UICEE was going to be carried out at the 9th UICEE Annual Conference on Engineering Education in Muscat, Oman. Indeed, the signing and exchange was conducted on Tuesday, 14 February 2006, at the Conference Gala Dinner. It was carried out on behalf of the Polytechnic University by Prof. Harold P. Sjrursen, Associate Provost for International Studies and Research, and Executive Director of the Institute for Global Alliances for Technology Education. Prof. Zenon J. Pudlowski was the signatory on behalf of the UICEE.



The photo shows Prof. H.P. Sjrursen (r) and Prof. Z.J. Pudlowski signing the Agreement on Partnership in Muscat, Oman.

The top photo shows Prof. Harold P. Sjrursen and Prof. Zenon J. Pudlowski signing the Agreement at the Conference Gala Dinner.

It is anticipated that this new partnership will open new avenues for collaboration for all members of the UICEE *Global Network of Engineering Educators* in North America and the USA in particular.

Another agreement on Partnership was signed on Wednesday, 15 February 2006, at the Closing Ceremony of the 9th UICEE Annual Conference. This

new partnership is between the UICEE and the Higher Institute of Engineering based in Hoon, Libya. The signatories of this Agreement were Dr Aisa Sayd M. Jadi, Dean of the Institute, and the UICEE Director, Prof. Zenon J. Pudlowski. Under this Agreement, the UICEE will assist the Institute in establishing the *Centre for Engineering and Technology Education* (CETE) as a satellite centre of the UICEE.

It is envisaged that through this venture, there will be greater and more fruitful opportunities for Libya to enhance its higher engineering and technology education, as well as for members of the UICEE network to collaborate with Libyan academics. Furthermore, it is also hoped that the Libyans will team up with the University of Science & Technology *Houari Boumediene*, a UICEE Partner institution in neighbouring Algeria, in order to advance engineering and technology education in North Africa, the Arab region and, indeed, the Mediterranean basin.

Special Edition of the GJEE

A Special Edition of the *Global Journal of Engineering Education* (GJEE), Vol.9, No.3, entitled *German Network of Engineering Education VI*, consisting of articles written entirely in the German language has been circulated to members. This Edition includes 12 highly informative papers concerning a wide spectrum of ideas and topics, which provide the reader with an excellent compendium of information on engineering and technology education in Germany. The emergence of this Edition marks a sixth year of existence of this German language publication with Prof. Norbert Grünwald,



The photo shows Dr Aisa Sayd M. Jadi (r) and the UICEE Director signing the Partnership Agreement in Muscat, Oman.

Rector of Hochschule Wismar - University of Technology, Business and Design, Wismar, Germany, as the Guest Editor.

It should be pointed out that the entire Volume 9 of the GJEE (2005) consists of three Issues, which includes 33 papers over 288 pages, and that the GJEE is the world's only journal dedicated to engineering education available on the Internet free of charge.

Changhua Conference

Taiwan is one of the most exciting travel destinations in the world and provided a nice venue for the 2nd North-East Asia International Conference on Engineering and Technology Education. The Conference was staged at the National Changhua University of Education (NCUE), Changhua, a Partner institution of the UICEE, between 11 and 15 December 2005.

The Conference was managed by Prof. David W.S. Tai, Dean of the College of Technology at the NCUE, and his team. Despite the cool climate, Conference organisers were able to create a warm atmosphere for the exchange of information, not only through formal paper presentations and discussions, but also through facilitated personal contacts.

A volume of the Conference Proceedings was published before the event, with copies distributed to Conference participants.

The top photo shows Prof. Ming-Teh Lin, Vice President of the NCUE, opening the Conference.



The photo shows Prof. Ming-Teh Lin, Vice President of the NCUE, opening the Changhua Conference.

ogy Education.

Readers should also note that the first two volumes of the WTE&TE are now available for free access on the UICEE Web site. This augments the UICEE's dissemination of refereed published information on engineering and technology education and enhances the availability of such education materials for every educator and student, as well as other interested parties, around the world.

10th Anniversary of Ms Nguyen

Fourth of December 2005 saw the celebrations of the tenth year of continuous service to the

UICEE by Ms Dianne Q. Nguyen. In her ten years of outstanding and productive service in various roles, including as a Project Officer and, most recently, as a Research Fellow, she has committed herself to research and development activities, and has continued to pursue her postgraduate education.

She graduated from Deakin University in 1994 with a Bachelor of Applied Science, majoring in chemistry and environmental management. In 1997, she completed her honours subjects in the Faculty of Engineering at Monash University, then enrolled as a Master of Engineering Science (Research) within the UICEE through the Department of Mechanical Engineering, initially on a part-time basis, before converting to full-time. She received her Masters in 2000 and immediately enrolled for a PhD, which she is soon to complete.

Her special research interests cover environmental science, and she has published widely in this field with over 40 conference papers and journal articles in the field of environmental engineering and sustainable development education. She has also received several academic awards, including the UICEE Silver Badge of Honour in 1998 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.*

Ms Nguyen has demonstrated her special commitment to research, developmental and organisational activities of the UICEE, and is especially concerned with the expansion of the *UICEE Global Network of Engineering Educators* and the UICEE as a whole.

World Transactions

The deadline of 31 March 2006 for the next issue of the *World Transactions on Engineering and Technology Education* (WTE&TE), Vol.5, No.1, is virtually here. UICEE members are encouraged to take up this opportunity and publish their original material in the World Transactions. The electronic kit for authors will be sent on request from Mr Marc Riemer of the UICEE on: marc.riemer@eng.monash.edu.au

Further details can be found at the UICEE Web site under *World Transactions on Engineering and Technol-*



The photo shows Ms D.Q. Nguyen of the UICEE.

She has an amicable and loyal character, and has demonstrated outstanding communication skills. Apart from a wide range of tasks, duties and engagements, Ms Nguyen is also the Webmaster for the UICEE Web site.

Staff, students and associates of the UICEE wish to thank Ms Nguyen for her exemplary service to the UICEE and look forward to her further successes within the UICEE and beyond. The photo on the previous page shows a happy Ms Nguyen in the UICEE offices.

I. Kerr Turns 70

Last December, Dr Ian R. Kerr celebrated his 70th birthday. Ian Kerr was first Project Officer appointed by the Centre in the very early stages of the UICEE in April 1994 for one year. Under his project, his responsibilities involved informing the local industries about the establishment of the Centre, its projected scope and potential areas of research and development, in order to attract their support.

He also assisted the UICEE Director in formulating a number of future activities and research projects. Establishing contacts in countries in Central and Eastern Europe that had been newly freed from totalitarian regimes, as well as providing them with assistance from the UICEE, was also one of the important areas of his responsibility.

Upon the completion of the grant, he continued to help the UICEE in its affairs on a voluntary basis for some time. He commenced his PhD studies on a part-time basis at RMIT University in Melbourne from which he received his doctorate in 2003.

Throughout so many years of association with the UICEE, Ian Kerr has demonstrated considerable interest towards engineering education, as well as enthusiasm about the development and achievements of the UICEE.

Staff, students, members and associates of the UICEE wish Dr Ian Kerr all the best and good health, as well as many more happy birthdays. The photo shows Dr Ian Kerr celebrating his 70th birthday in style.

5th Global Congress

Preparations are fully underway for the 5th Global Congress on Engineering Education to be held at the MetroTech campus of the Polytechnic University, Brooklyn, New York, USA, between 17 and 21 July 2006, with the Polytechnic University as the host and principal co-sponsor. The UICEE has started to receive full papers. Indeed, it looks that the Congress will have a good level of participation and should have a solid turnout in

terms of papers submitted. This will warrant an effective debate on current and burning issues in engineering and technology education.

It is envisaged that, as at any UICEE conference, we will be able to develop a friendly atmosphere in which to debate engineering education and potential collaborative ventures.

The submissions received thus far indicate that there will be several eminent speakers, representing well-known international academic institutions, addressing the Congress.

It is envisaged that there will also be a series of auxiliary meetings associated with the Congress, such as the UICEE Partners' Meeting, and the 18th General Meeting of the International Liaison Group on Engineering Education (ILG-EE), scheduled for Wednesday, 19 July 2006, plus others. More information can be found on the UICEE Web site under *Conferences and Meetings*.

Further, there will be opportunities for relaxation and the potential for participants to extend their stay for a holiday, with North America offering many opportunities for holidays and tourist attractions. Those UICEE members who wish to propose a last minute paper should contact the UICEE regarding their submissions. The UICEE strongly encourage our members to take part in this UICEE *flagship* meeting.



The photo shows Dr Ian Kerr celebrating his 70th birthday milestone.

10th Baltic Seminar

The UICEE has just commenced its advertising campaign concerning the organisation of the 10th Baltic Region Seminar on Engineering Education, which is to be held at the University of Szczecin in Szczecin, Poland, from 4-6 September 2006. On this occasion, the Seminar will be held under the theme of *Education and Training for Engineering Entrepreneurship*.

Apart from the University of Szczecin, and its Faculty of Economics, Sciences and Management in particular, two UICEE Partner institutions, namely Hochschule Wismar – University of Technology, Business and Design (HSW), Wismar, Germany, and Gdynia Maritime University, Gdynia, Poland, have decided to become principal co-sponsors of this event.

It should be pointed out that the Seminar is being organised in conjunction with the 2nd Baltic Business Development Conference, which is a collaborative venture between the HSW and the University of Szczecin.

Round Table Workshop

Representatives of Partner institutions of the UICEE have already received an e-mailed invitation to attend a *Round Table Workshop* for UICEE Partners,

to be held at the UICEE European Headquarters (UICEE-EHQ) in Wismar, Germany, from 7-8 September 2006, immediately after the 10th Baltic Region Seminar.

The general aim of the Workshop is to create a platform for the exchange of information about the activities of the Partner institutions within the UICEE structure. Both the UICEE and UICEE-EHQ will present their activities and specific programmes underway, as well as new ideas for future endeavours. Also, it is envisaged that there will be plenty of formal and informal opportunities for networking in order to establish future collaborative programmes and ventures, and discuss the ways in which such ventures can receive financial backing from the existing funding agencies, especially those in the European Union (EU).

Kabul Uni Reconstruction

Higher education in Afghanistan was well established 30 years ago, with 68 colleges in all the major cities. Despite nearly 25 years of war and neglect, many of the educational institutions had survived into the early 1990s, with more than 24,000 students still enrolled, one third being female. When the Taliban ruled in the mid-1990s, everything changed; females were denied all access to education and most higher education institutions were closed.

However, world attention turned to Afghanistan and the Taliban were removed. Since 2002, Afghans have been very keen to rebuild their educational institutions and ten colleges have re-opened, four of them in Kabul. Students have been keen to return to the colleges, but this is dependent upon the availability of resources and facilities.

In 2002, Dr Nouria Salehi, Senior Scientist in Nuclear Medicine at the Royal Melbourne Hospital and President of the Afghan Australia Volunteers Association, went back to her homeland of Afghanistan and visited Kabul University. She was taken on a tour of the University to find it completely deserted and in a poor state of repair; the University library was looted, and classrooms lacked basic resources and furniture. The once fully resourced Engineering Faculty was badly damaged, bereft of learning resources and scientific equipment. However, the new Vice-Chancellor at the time was keen to re-open the University and asked Dr Salehi join him in his push to call on Australian higher educational institutions to donate appropriate library resources to the University Library. Australia contributed enormously to this request with eight containers of books and medical items being sent to Kabul for distribution between 2002 and 2004.

In late 2002, Kabul University received assistance from UNESCO to develop its College of Journalism with 10 short-term fellowships to Germany awarded. Purdue University also assisted in the reconstruction of the School of Engineering and Agriculture through finance from USAID and other funding sources.

Returning in 2004, Dr Salehi and her brother, Mr Aziz Salehi, saw that the positive change, with new library books supplied by international universities and many of the faculties had

re-opened with limited numbers of students. The Engineering Faculty now had a small engineering library but very little else. The rehabilitation of some of the teaching rooms had begun, but they were still deficient in scientific or engineering equipment available for students.

In November 2005, Mr Aziz Salehi and Ms Kay Salehi (educational developer from Swinburne University, Melbourne, Australia) travelled to Kabul to see the University's progress and make contact with University engineering staff. The Deputy Vice-Chancellor, Ms Nargus Nehan, displayed great energy and enthusiasm to working towards the rebuilding of the University infrastructure. They plan to explore the possibilities of e-learning as an added learning resource and have begun constructing a University Web site at <http://www.ku.edu.af/>

In 2005, it was estimated that there were 10,000 students attending Kabul University. The Engineering Faculty currently has 500 students in the following disciplines: civil engineering, electrical engineering, mechanical engineering and architecture. Learning takes place under difficult conditions and Faculty staff are paid a pitiful US\$80 per month (it costs on average US\$200 per month to live) so they must supplement their income with other work. One Report has affirmed that the most critical need for reconstruction is building up the skills of University faculty. This can be achieved by providing scholarships to promising young graduates to travel and study abroad, or for visiting academics to provide some support in updating staff skills (<http://www.reliefweb.int/library/documents/2003/adb-afg-30apr.pdf>).

As with much of the building infrastructure of Kabul University in 2005, the Engineering Faculty is in a poor state of repair: laboratories and the specialist library have minimal resources. The original heating system still does not operate, and many classrooms still lack basic equipment like chairs and desks. In January 2006, The Dean of Engineering, Dr Ata Mohammad Nazar, stated that the needs of the faculty include laboratory equipment in all departments, especially the hydraulics, physics and chemistry laboratories. Some equipment has come but the needs have not yet been met; support has been somewhat piecemeal. Dr Nazar commented that *No organisation so far has assessed our needs as a whole package. So, you could use your judgement regarding what is available or could be made available. If you keep us posted, we will respond.*

To conclude, it appears that the University has progressed along a difficult path and has moved forward. However, there is a great need for faculties to have physical facilities (laboratories and classrooms) rehabilitated, to have teaching and learning materials provided, and to gain support for enhancing academic skills in key discipline areas, particularly engineering.

It is hoped that UICEE member institutions might consider what support they could provide to Kabul University's Engineering Faculty. For more information, interested members could contact Dr Nouria Salehi at the Afghan Australia Volunteers Association, nouria.salehi@mh.org.au or make contact directly with the Dean of Engineering, Dr Ata Nazar at nazarzazai@hotmail.com

(This item contributed by Ms Kay Salehi)