



UNESCO International Centre
for
Engineering Education



Newsletter

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November 1997

From the Director

Readers will find this issue of the Newsletter replete with reports of the Centre's many new or consolidating activities undertaken since July. Two of them are of considerable importance to the UICEE; namely, the partnership with Roads Corporation, Victoria (VicRoads), and the organisation of three seminars in Europe this past September.

The alliance with VicRoads is a real breakthrough in the UICEE's efforts to bring Australian industry to the mainstream of international engineering education. A brief item by Mr John Coles of VicRoads provides some understanding of VicRoads' perspective on the partnership.

The running of the three seminars in Europe - Mannheim, Germany; Pavia, Italy; and Vilnius, Lithuania - demonstrates the global role of the Centre, which has so successfully crossed international and regional boundaries.

The success of the UICEE in the globalisation of engineering education has been based on existing friendships developed over the last ten years, friendships which are vital in building global networks. I take this opportunity to thank all those, from all corners of the world, for their support of the UICEE and its activities. United we are strong!

What is in a Name?

Since the July issue of the Newsletter went to print, the Centre has undergone a change of name in reflection of its altered status within UNESCO. The signing of an agreement by the Director-General of UNESCO, Dr Federico Mayor, has removed the symbolic *Supported* from the Centre's title in exchange for full UNESCO Centre status in practice. The agreement, which had the full backing of the Australian National Commission (ANC) for UNESCO and Monash University, was recommended to UNESCO by Professor Ken Wiltshire, Chairman of the ANC, and Professor David Robinson, Vice-

Chancellor of Monash University.

As was reported in July's Newsletter, impetus for this agreement found renewed momentum with a meeting of the Science and Technology Network of the ANC in Canberra in May this year. The Centre was subsequently invited to present an exhibition of its achievements to the full meeting of the National Commission, and, by all accounts, so impressed the Commission with the output of its activities in so little time, with so few staff, and almost entirely self-supported, that the ANC recommended to UNESCO that the Centre receive full status as a UNESCO Centre.

The signing of this new agreement is seen as recognition by UNESCO of the Centre's achievements, and demonstrates UNESCO's increasing commitment to engineering and technology education. It ensures that the UICEE can continue its important work for the benefit of the entire global engineering community.



Prof. Adnan Badran



Prof. Peter LeP. Darvall

Asia-Pacific Forum

The successful running of the *1st Asia-Pacific Forum on Engineering and Technology Education* at Monash University from 6-9 July heralds a promising new phase in the development and delivery of engineering and technology education in the Asia-Pacific region.

Close to 100 participants from 23 countries travelled to Melbourne to attend the Forum, with South East Asia and the Pacific region well represented by participants from 12 countries. It was inspiring and reassuring to discover that such a regional Forum could attract interest from other regions - the Americas, Africa and Europe - clear evidence of the increasing globalisation of engineering and technology education, as well as the willingness of engineer-

UICEE Partner



ing education's protagonists to share knowledge and experience and to learn from each other.

80 paper presentations were made at the Forum, 78 of which have been included in the *Forum Proceedings*, which is available through the UICEE. Two keynote addresses were presented during the Opening Ceremony, with a further twelve keynote addresses introducing six so-called Asia-Pacific Forum sessions and covering the diverse and significant issues of *International Collaboration*, *New Methods in Engineering Education*, *Information Transfer and Multimedia*, *Learning Styles in Engineering Education*, *Industry/Academia Collaboration* and *APHEN-EE*. The papers were typically very good and the proceedings should prove to be a valuable resource for some time to come for those involved with engineering and technology education.

On the final day of the Forum, participants were able to vote for those papers presented which were felt to have made the most significant contribution to the Forum and to engineering and technology education in general.

Five awards - diamond, platinum, gold, silver and bronze - were to be nominated, but, with a dual fourth place, the bronze category was not presented. The paper presented by N. Scott and B.J. Stone of the University of Western Australia won the diamond award by a clear margin.

In order, the awards were:

- Diamond** *A flexible web-based tutorial system for engineering, maths and science subjects*, by N. Scott and B.J. Stone, the University of Western Australia, Australia.
- Platinum** *RE³=X: re-engineering engineering education*, by Mike Brisk, Monash University, Clayton, Melbourne, Australia.
- Gold** *Conceptual maps in engineering education: a case study*, by J.F.V. Riveros, G.P.M. Vivas and M.M. Melo, Pontificia Universidad Javeriana, Santafe de Bogota, DC Colombia.
- Silver** *International experience during study: a way of preparing students for their professional career*, by H-P. Jensen and M. Gundstrup, Technical University of Denmark, Lyngby, Denmark.
- Silver** *Engineering and business students co-operate on industry based projects*, by R.P. Wellington and I.D. Thomas, Monash University, Caulfield, Melbourne, Australia.

Expanded versions of these excellent award winning papers, selected keynote addresses and regular papers will be published in Volume 2 Number 1 of the *Global Journal of Engineering Education*.

As an activity of the recently established Asia-Pacific Higher Education Network, Engineering Education subnetwork (APHEN-EE), a primary purpose of the Forum was to bring together academics and individuals concerned

with engineering and technology education in the region in order to formulate an action-oriented agenda for the network.

A report on the outcomes of the Forum will be produced and distributed in the near future. On the basis of discussions held during the Forum it is the intention of the report to present proposals for the future of engineering and technology education in the region.

The UICEE is currently seeking industry sponsors for the report. Sponsors will have the opportunity to be presented to several hundred individuals, academic and industry organisations throughout the region and the world.

UICEE Awards

Novotel on Collins, in the heart of the City of Melbourne, played host venue to the *1st Asia-Pacific Forum Dinner* on Tuesday 8 July. With virtually all of the Forum participants attending and eager to make the most of the occasion to consolidate friendships and relax after the absorbing intensity of the two prior days, the evening was a fitting high point for the Forum, and a dynamic and entertaining social event.

Professor Robin W. King, Dean of the Faculty of Information Technology at the University of South Australia, directed the evening's proceedings having donned the mantle of Master of Ceremonies. The guest speaker was Professor David G. Beanland, Vice-Chancellor of the Royal Melbourne Institute of Technology, Melbourne, who gave dire warning, in his thought-provoking talk, of the consequences for tertiary engineering and technology education if academia failed successfully to court industry.

The climax of the evening was the UICEE Director's inaugural presentation of the UICEE Badge of Honour Awards, gold and silver badges awarded 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 18 carat gold badges were presented to Professor Peter LePoer Darvall, Deputy Vice-Chancellor of Monash University, Australia, and Professor Adnan Badran, Deputy Director-General of UNESCO (pictured on front page). Unfortunately, Professor Badran was unable to attend the Forum, and the award will be presented to him by the UICEE Director in the near future.

Ten silver badges were presented at the dinner. The recipients were Professor Darrell Williamson, Deputy Dean and Head of Engineering and Information Technology, Australian National University, Canberra, Australia; Professor Hans-Peter Jensen, Rector, Technical University of Denmark, Lyngby, Denmark; Professor Michael L. Brisk, Dean, Faculty of Engineering, Monash University, Clayton, Melbourne, Australia; Professor Roman Cwilewicz, Head, Department of Marine Power Plant, Gdynia Maritime Acad-

emy, Gdynia, Poland; Professor Janusz Mindykowski, Vice-Rector, Gdynia Maritime Academy, Gdynia, Poland; Professor Anatoly I. Petrenko, Head of CAD Department, National Technical University of Ukraine, Kiev, Ukraine; Mr Peter Benson and Mr John E. Coles of Roads Corporation Victoria (VicRoads), Melbourne, Australia; Mr Ian Kerr, long-time associate of the Centre; and Associate Professor Kevin Rochford, Science Education Unit, Faculty of Education, University of Cape Town, Rondebosch, Republic of South Africa.

UNESCO Course

Following the Centre's successful running, in 1994, of the UNESCO sponsored course for academics on *The Application of Computer-Assisted Training Programs in Engineering Education* (based on the UICEE book of the same name), the UICEE received follow-up funding from UNESCO to rerun the course in 1997.

Once again, twelve young academics from South East Asia and the Pacific region - from Indonesia, Lao, PNG, Fiji, Vietnam, the Philippines, India and Thailand - were brought to Melbourne in order to attend the course. On this occasion the course was planned to coincide with the *1st Asia-Pacific Forum on Engineering and Technology Education*, thus allowing the course participants to benefit from exposure to the cutting-edge of engineering education.

The results of two surveys taken of the participants again affirms the exceptional value of the course. All participants acknowledged that the course had been of great benefit to them and that they would endeavour to disseminate their newly acquired knowledge and skills on returning to their home countries.

UICEE Annual Conference

Work is in full-swing on the *1st UICEE Annual Conference on Engineering Education*, under the theme *Globalisation of Engineering Education*, which will be held at Monash University between 11 and 14 February 1998.

Over 80 paper proposals from 21 countries have been received so far, with Australian contributions already in excess of 30.

It is envisaged that the Conference will discuss the activities of the UICEE, and will formulate the future research, development and publication plans of the Centre.

The UICEE endeavours to bring Australian Technical and Further Education (TAFE) institutes to the party by organising a special session dedicated both to their engineering and technology education and the internationalisation of TAFE education and training. Mr Ron Seidel, of the Regency TAFE Institute in Adelaide, will champion

this effort.

It is envisaged that a meeting of the UICEE Academic Advisory Committee, headed by Professor Peter LeP. Darvall, will be staged during the Conference.

We would like to encourage all colleagues in engineering and technology education to take up this golden opportunity and attend the Conference.

Global Congress

Preparations for the 1998 *Global Congress on Engineering Education* are finding momentum. Although the deadline for the submission of paper proposals is 31 December 1997, we have already received more than one hundred indications of interest from 38 countries.

The Congress will take place in the historic city of Cracow, a former capital of Poland and a pearl of Medieval and Renaissance architecture, between 6 and 11 September 1998. Readers are cordially invited to propose a paper and attend the Congress.

Membership Drive

The Centre's membership continues to climb steadily. Since the July issue of the Newsletter and its encouraging news of VicRoads' partnership with the Centre, our three Supporter institutions - the Technical University of Denmark, Auckland Institute of Technology, New Zealand, and the Australian National University, Canberra - have been joined by the University of Wismar, Germany; and our Institutional Contributing members - Kaunas University of Technology, Kaunas, Lithuania, and Middle East Technical University, Ankara, Turkey - have been joined by Vilnius Gediminas Technical University, Vilnius, Lithuania, and Regency Institute of TAFE, Adelaide, Australia. The Centre now has over 60 individual members, twice July's number.

ALLTED

ALLTED - A Computer-Aided Engineering System for Electronic Circuit Design, by A.I. Petrenko, V.V. Ladogubets, V.V. Tchkalov and Z.J. Pudlowski is the fifth publication in the *Monash Engineering Education Series*. The series was established by the UICEE in 1995 in its on-going mission to undertake research and development, and to act as a clearinghouse on information on engineering education. The publication of this book is a joint effort of the UICEE and the CAD Department of the National Technical University (NTU) (Kiev Polytechnical Institute), Ukraine.

ALLTED (**All Technology Designer**) is a Computer-Aided Engineering (CAE) system developed in the former Soviet Union at a time when computer hardware lagged

behind that available in the West. The designers overcame this problem by developing the software around original algorithms with the result that ALLTED, the designers believe, surpasses the abilities of SPICE, the industry standard, and yet can operate on a system with as little as a 386 processor.

ALLTED is an educational tool which has been developed for the simulation, analysis and design of such diverse devices as drives, control systems and dynamic systems composed of electronic, hydraulic, pneumatic, mechanical, electrical, electromagnetic, and other physical phenomena elements. This can be done by considering each technology individually or in combination. Complex drives and systems of this type are widely used in modern aerospace, robotics, NC machine tools, test equipment, highway engineering, agricultural and other applications. This book deals with the design of electronic circuits using ALLTED.

Both the UICEE and the CAD Department of the NTU distribute the ALLTED code and will be able to deliver one or two-week long seminars for training in optimal design for electronics and mechatronics. Such seminars can be organised in Kiev, Ukraine, or Clayton, Australia, or at any university or company worldwide which can provide suitable conditions.

For further details, please contact the publisher or see the UICEE Internet site: <http://www.eng.monash.edu.au/uicee>

German Seminar

A one day *Seminar on Engineering Education - a German Perspective* was organised by the METEOR-Zentrum (METEOR Centre) of the University of Applied Science Mannheim, Fachhochschule Mannheim, in collaboration with the UICEE on 3 September 1997.

Over 15 distinguished professors, representing a number of academic establishments in Germany, attended the Seminar, which was chaired jointly by Professor Dr Klaus Jürgen Peschges and the UICEE's Director.

The Seminar had two basic objectives: first, to discuss the establishment of a network of German institutions (tentatively named a *German Consortium for Engineering Education*) to collaborate with the UICEE; and second, to formulate concrete actions and activities for the network. High on the agenda was the establishment of organisational structures relevant to global co-operation between potential partners in Germany and the UICEE.

The successful staging of the German seminar was achieved by a team of the METEOR Centre's staff, which included Ms Tatiana Schneider, Mr Erich Reindel, Mr Bernard Häusler and Ms Jeannette Endress.

It was decided that two international gatherings will be staged in Germany in 1998 in conjunction with the *Global*

Congress on Engineering Education: the 90th Anniversary Jubilee Seminar on Engineering Education in Wismar, and the *100th Anniversary Jubilee Conference on Engineering Education* in Mannheim (see separate articles for details).

Mediterranean Seminar

The idyllic Italian September climate set the scene for the *Mediterranean Seminar on Engineering Education*, organised by the UICEE in conjunction with the University of Pavia, under the Chairmanship of Vice Rector for International Affairs, Professor Antonio Savini. The Italian organiser was Dr Paolo Di Barba, of the Department of Electrical Engineering, with John Zakis co-ordinating events for the UICEE. The Seminar was held between 14 and 16 September in celebration of the 30th anniversary of the foundation of the Faculty of Engineering at the University of Pavia, and close to 20 presentations were made.

The objective of the Seminar was to bring together educators from the Mediterranean region to initiate dialogue about common problems and challenges in engineering and technology education.

During the Opening Ceremony, two distinguished academics from the Mediterranean region, the University of Pavia's Vice-Rector of International Affairs, Professor Antonio Savini, and Professor Tuncay Birand, Dean of Engineering, Middle East Technical University, Ankara, Turkey, received the UICEE Silver Badge of Honour for their outstanding contribution to engineering education.

A highlight of the Seminar was the participation of the president of the *European Society for Engineering Education* (SEFI), Professor F. Maffioli, who gave two excellent presentations: the first on *The viewpoint of SEFI on Engineering Education in Europe*, and the second, *New initiatives in Europe for the formation of engineers*.

A meeting of the Italian engineering deans, entitled *La formazione dell'Ingegnere in Italia verso il Duemila*, was organised in conjunction with the Seminar. The UICEE Director had the opportunity to address the Italian deans and present the role and activities of the Centre in the development of engineering education worldwide.

The seminar was conducted in the famous auditorium, *Aula Volta*, built in the nineteenth century for the University's famous Rector, Alessandro Volta, in order to facilitate attendance at lectures.

Lithuanian Seminar

Lithuania's frigid climate was tempered by her warm hospitality during the 1st *Baltic Region Seminar on Engineering Education*, which was held at the Vilnius Gediminas Technical University (VGTU), in Vilnius, between 26 and 28 September.

The UICEE Seminar was organised in collaboration with Lithuania's two technical universities, VGTU and Kaunas University of Technology (KUT), and was opened by the Rectors of these institutions, Professor Edmundas K. Zavadskas (VGTU) and Professor Kestutis Krisciunas (KUT), and the UICEE Director. A concert by the VGTU choir *Gabija* added a celestial dimension to the Opening Ceremony.

During the Opening Ceremony, the UICEE Director presented the UICEE Silver Badge of Honour to four distinguished Lithuanian academics. The recipients were the Rectors of VGTU and KUT, Professor Edmundas Zavadskas and Professor Kestutis Krisciunas; Professor Audvydas Staskevicius, Vice-Rector of the Gediminas Technical University; and Professor Romanas Krivickas, Vice-Rector of Kaunas University of Technology.

Twenty paper presentations were made, with over 100 attendees, including Rectors of the technical universities in the three Baltic States - Lithuania, Latvia and Estonia - to whom the UICEE Director had the pleasure of presenting the Centre, its role and activities.

The objective of the Seminar was to create a forum for the exchange of information on engineering and technology education in the region. An exciting and pleasing breakthrough at the Seminar was the decision to establish a series of such meetings, with the *2nd Baltic Region Seminar on Engineering Education* to be held at the Riga Technical University in Latvia, between 26 and 28 September 1998, hosted by Professor Egons Lavendelis, Rector of the University.

So great was the enthusiasm for the Seminar series that Professor Olav Aarna, Rector of the Tallinn Technical University, invited participants to the *3rd Baltic Region Seminar* at his institution in Estonia in September 1999. The invitation was received with pleasure.

Latin American Forum

Our Latin American *amigos* have invited the UICEE to assist in the staging of the *1st Latin American and Caribbean Forum on Engineering and Technology Education*, under the theme: *Developing Human Resources for Latin America and the Caribbean*. The Forum will be held at Benemérita Universidad Autónoma de Puebla (BUAP), Puebla, Mexico, between 25 and 28 January 1998, and will be a collaborative effort between the BUAP, the Instituto de Estudios Superiores en Ingeniería de Puebla (IESIP), and the UICEE.

The objective of the Forum is to bring together educators from the region and beyond to initiate dialogue concerning engineering and technology education; to discuss the need for innovation in this area of education; to establish co-operative links; to form new friendships and to foster friendships already established.

As with the recent *1st Asia-Pacific Forum on Engineering and Technology Education*, this coming Forum's

main objective is to establish a regional network for engineering and technology education, and to assist in the quest for human resources development.

The deadline for submission of presentations is 5 December 1997, and readers are encouraged to contribute to this important enterprise by proposing a paper and attending the Forum.

Preparations for the Forum, under the Chairmanship of Professor Dr Jorge Guzmán Arciniega, Rector of the IESIP, are rapidly building steam, with the recent report on the Forum's status indicating an impressive potential participation of 200 students, 79 academics, 14 Chairmen of departments, 32 Deans of engineering and 4 University Presidents (Rectors), including a good number of overseas delegates.

Seminar in Wismar

The University of Wismar in Germany proudly celebrates 90 years of engineering education in Wismar, with a *90th Anniversary Jubilee Seminar on Engineering Education* to be held at the University of Wismar from 6 - 8 May 1998. The Seminar is an integral part of week-long celebrations taking place between 4 and 9 May 1998.

Organisation of the Seminar will be conducted by a team of distinguished German academics under the Chairmanship of Professor Dr Norbert Grünwald, and will have, as a primary objective, the establishment of the *German Consortium for Engineering Education* that was debated at the September seminar staged in Mannheim by the UICEE and the METEOR Centre of the University of Applied Science Mannheim, Fachhochschule Mannheim.

An indication of interest and call for papers is presently in circulation, and those interested should contact the UICEE to receive a copy.

Conference in Mannheim

The *100th Anniversary Jubilee Conference on Engineering Education* in Mannheim, in celebration of the 100th year of the Fachhochschule Mannheim, will be organised in Mannheim between 17 and 19 September 1998, immediately after the *Global Congress on Engineering Education*.

The Conference will be one of the first regional gatherings to have the opportunity to discuss the implementation of the recommendations and agenda proposed by the *Global Congress*, and it should be the first German meeting at which the nascent *German Consortium for Engineering Education* will take its first steps.

The Conference will be an international showcase of the METEOR Centre, headed by Professor Peschges, and a demonstration of how German engineering education can support developing countries.

Global Journal

The second issue of the *Global Journal of Engineering Education* (GJEE) is now in circulation. This is the second and concluding issue of the journal to collate papers that were presented at the *3rd East-West Congress on Engineering Education*, under the theme *Re-vitalising Academia/Industry Links*, an extremely successful gathering of international engineering educators which was held in Gdynia, Poland, between 15 and 20 September 1996.

An overview of the outcomes and achievements of the Congress is presented, along with a brief summary of most of the papers presented in issues 1 and 2 of the journal. What is particularly exciting about these two issues is the breadth of discussion manifest in these papers. This issue presents the experiences and observations and the research and development of academics and university administrators from four continents. The reader will find discussion on general issues of higher education today; methods to improve science and technology education, and problem-based approaches to this end; as well as a number of papers which focus on the development of cutting-edge technology, namely multi and hypermedia, for the purposes of education.

The European Seminars run in Pavia and Vilnius have provided a wealth of research and development material in engineering education deserving of worldwide distribution. A decision has therefore been made to publish a special edition of the GJEE, Volume 1, Number 3, with selected papers from the two Seminars. The basis of selection for inclusion is a democratic rating by participants at the Seminars. This complimentary issue of the journal will be circulated in December as a seasonal gift to UICEE supporters and GJEE readers to enrich their professional libraries.

In making the decision to produce a special edition of the journal, it was felt that GJEE readers would appreciate exposure to issues in engineering education in two different regions, the Mediterranean and Baltic, with a hope that this edition will generate interest in our readers and enthusiasm to collaborate with academics in these two regions.

Honour for Director

The UICEE Director was pleasantly surprised during the *1st Asia-Pacific Forum Dinner* when Professor Anatoly I. Petrenko, Head of the CAD Department of the National Technical University of Ukraine, and Vice-President of the Ukrainian Academy of Engineering Sciences, presented him with a diploma of membership to the Academy. Membership of the Academy is achieved through nomination and subsequent election by its Members.

Professor Petrenko explained that the diploma of membership was awarded by the Academy in recognition of A/Professor Pudlowski's outstanding contribution to engineering and technology education.

VicRoads-UICEE Partnership

The signing of a Memorandum of Understanding between Roads Corporation, Victoria, (VicRoads) and the UNESCO International Centre for Engineering Education (UICEE), on 30 May 1997, represents a significant opportunity for the further achievement of the aims of both organisations in technology transfer and engineering education.

VicRoads is a leading State Road Authority expert in road management, that is, in managing road infrastructure and the traffic that uses it, and is pleased to enter into the agreement as it promises to assist the organisation in meeting its engineering education needs, both in Victoria and in other countries. VicRoads is an organisation of some 2,500 staff which is well advanced in a transition from a provider of services to a purchaser of services. This transition naturally involves a re-examination of engineering knowledge requirements in the organisation and also raises questions of the type of engineering education required, particularly when management, financial control and quality management issues are considered.

Perhaps the area of particular collaboration for the two bodies is in working together to further strengthen the network of engineering education in South East Asia, a process which found impetus in 1995 with the establishment of the Asia-Pacific Higher Education Network in Engineering Education (APHEN-EE).

VicRoads has been active for a number of years in carrying out consulting work in the region. This consulting work is normally carried out in partnership with Australian companies and meets the prime objectives of involving/facilitating Australian companies in gaining market access and offers development opportunities for VicRoads' staff through technology transfer and the delivery of projects.

The experience of recent years has shown that the infrastructure works usually involve technology transfer and require the training of staff from the client country. Training may be required for non-professional staff, but it also takes the form of postgraduate education. Subjects range widely from basic engineering subjects to relatively sophisticated system development and introduction. The investigation and development of techniques for the delivery of this training/education relates closely to the objectives of the UICEE.

The partnership offers opportunities to promote the work of VicRoads and the UICEE and to satisfy needs for engineering education particularly in the South East Asia region. VicRoads looks forward to the continuing development of the partnership over the next year.

John Coles
Manager - Road Systems Consulting
VicRoads



VicRoads Training in South East Asia.

Forthcoming Conferences

The following is a list of conferences, forums and congresses which are to take place around the globe over the next year:

- India, Madras, 12 - 14 January 1998 - *ICEEAP 98 International Conference on Engineering Education: An Asian Perspective*. Organised by the Indian Institute of Technology. Conference Secretariat: Prof. C.R. Muthukrishnan; Tel: +044 - 2352536; Fax: +044 - 2352533; E-mail: crm@iitm.ernet.in
- Kenya, Nairobi, 18 - 21 January 1998 - *1st Pan-African Forum on Engineering and Technology Education*, under the theme *Building Human Resources for Africa*. Organised by the UICEE in collaboration with the Jomo Kenyatta University of Agriculture and Technology. Contact person: Assoc. Prof. Zenon J. Pudlowski; Tel: +61 3 990-54977; Fax: +61 3 990-51547; E-mail: ZJP@eng.monash.edu.au
- Mexico, Puebla, 25 - 28 January 1998 - *1st Latin American and Caribbean Forum on Engineering and Technology Education*, under the theme *Developing Human Resources for Latin America and the Caribbean*. Organised by the UICEE in collaboration with the Benemérita Universidad Autónoma de Puebla & Instituto de Estudios Superiores en Ingeniería de Puebla.

Contact person: Prof. Dr Jorge Guzmán Arciniega, The Forum Secretariat, Olivos 3924, Las Animas, Puebla, Mexico 072400; Tel/Fax: +52 22 498451; E-mail: capprim@puebla.teesa.com

- Australia, Melbourne, 11 - 14 February 1998 - *1st UICEE Annual Conference on Engineering Education*, under the theme *Globalisation of Engineering Education*. Contact person: Assoc. Prof. Zenon J. Pudlowski; Tel: +61 3 990-54977; Fax: +61 3 990-51547; E-mail: ZJP@eng.monash.edu.au
- Jordan, Irbid, 30 March - 2 April 1998 - *IASTED International Conference: Computer Systems and Applications*. Contact: IASTED Secretariat CSA '98, #80 4500-16 Ave NW, Calgary, AB Canada T3B0M6; Tel: +403 288 1195; Fax: +403 247 6851; E-mail: iasted@cadvision.com
- Germany, Wismar, 6 - 8 May 1998 - *90th Anniversary Jubilee Seminar on Engineering Education*. Organised by: The University of Wismar in collaboration with the UICEE. Contact person: Prof. Dr Norbert Grünwald; Tel: +49 3841 753 313; Fax: +49 3841 753 383; E-mail: n.gruenwald@mb.hs-wismar.de
- USA, Seattle, WA, 28 June - 1 July 1998 - *The 1998 American Society for Engineering Education (ASEE) Conference*. Contact person: Dr Muthar Al-Ubaidi, College of Applied Science, University of Cincinnati, 2220 Victory Parkway, Cincinnati, Ohio 45206-2822; Fax: (513) 556-4015; E-mail: Muthar.Al-Ubaidi@UC.Edu

- Poland, Cracow, 6 - 11 September 1998 - *Global Congress on Engineering Education*, incorporating the *5th World Conference on Engineering Education*, the *4th East-West Congress on Engineering Education* and the *1998 International Congress of Engineering Deans and Industry Leaders*. Organised by: The UICEE, Monash University, Clayton, Melbourne, Australia. Contact person: Assoc. Prof. Zenon J. Pudlowski; Tel: +61 3 990-54977; Fax: +61 3 990-51547; E-mail: ZJP@eng.monash.edu.au
- Poland, Zakopane, 13-16 September 1998 - *EQAS'98 2nd International Conference on Quality Assurance within Engineering Higher Education*. Organised by: The University of Mining and Metallurgy, Cracow, Poland. Contact: Conference Secretariat; Tel: +48 12 6173103; Fax: +48 12 6173531; E-mail: EQAS98@UCI.AGH.EDU.PL
- Germany, Mannheim, 17 - 19 September 1998 - *100th Anniversary Jubilee Conference on Engineering Education*. Organised by: METEOR- Zentrum, University of Applied Science Mannheim, Fachhochschule Mannheim, Mannheim, Germany. Contact person: Professor Dr Klaus Jürgen Peschges; Tel: +0621 292 6461; Fax: +0621 292 6464; E-mail: TATIANA@cim-1.cim.fh-mannheim.de
- Latvia, Riga, 26 - 28 September 1998 - *2nd Baltic Region Seminar on Engineering Education*. Organised by: The UICEE, Monash University, Clayton, Melbourne, Australia. Contact person: John Zakis; Tel: +61 4 1133 7643; Fax: +61 3 9905 1547; E-mail: zakis@eng.monash.edu.au

UICEE Publications

The following publications are available on request from the Centre:

Proceedings of the 1st Asia-Pacific Forum on Engineering and Technology Education, edited by Zenon J. Pudlowski. With the establishment of the Asia-Pacific Higher Education Network - Engineering Education subnetwork it was essential to create a forum for engineering educators to discuss issues of innovation in engineering and technology education, with a particular focus on the development and delivery of engineering education in the region. These Proceedings collect the papers presented at the inaugural Forum. Cost of Volume: \$A100.

Proceedings of the 8th Annual Convention and Conference of the Australasian Association for Engineering Education, edited by Ian F. Morrison and Zenon J. Pudlowski. The papers in this Convention and Conference Proceedings consider the many diverse issues of *Keeping Pace with Social and Technical Change*. Cost of Volume: \$A100.

Proceedings of the 3rd East-West Congress on En-

gineering Education, edited by Zenon J. Pudlowski. The Congress brought together engineering educators from East and West in order to continue the dialogue about common international problems in engineering education in an age of rapidly changing technology, and about the restructuring of academia in the context of the new economic conditions prevailing in countries of the former socialist block. Cost of volume: \$A100.

Proceedings of the 7th Annual Convention and Conference of the Australasian Association for Engineering Education, edited by Mohammad Aldeen and Zenon J. Pudlowski. Conducting its deliberations under the theme *Internationalisation of Engineering Education*, the *7th Annual AAEE Convention and Conference* addressed some of the major challenges confronting engineering educators in an age of educational globalisation. Cost of volume: \$A100.

Proceedings of the 1995 International Congress of Engineering Deans and Industry Leaders, edited by Zenon J. Pudlowski and Peter LeP. Darvall. The primary objective of the Congress was to provide an international forum for continued dialogue on adapting engineering education and research to the needs of less developed countries. Cost of volume: \$A100.

Computers in Electrical Engineering Education - Research, Development and Application, edited by Zenon J. Pudlowski *et al.* This monograph presents recent achievements in developmental research on the application of computers and computer technology to engineering education. Cost of volume: \$A50.

The Application of Computer-Assisted Training Programs in Engineering Education, edited by Zenon J. Pudlowski and Roger G. Hadgraft. Originating from a UICEE training course for academic teachers from the Asia-Pacific, this monograph will be of value to anyone interested in the most recent innovations in computer-aided teaching and learning, including the Internet and Electronic Library. Cost of volume: \$A70.

ALLTED - A Computer-Aided Engineering System for Electronic Circuit Design, by A.I. Petrenko, V.V. Ladogubets, V.V. Tchkalov and Z.J. Pudlowski. ALLTED is an educational tool which has been developed for the simulation, analysis and design of such diverse devices as drives, control systems and dynamic systems composed of electronic, hydraulic, pneumatic, mechanical, electrical, electromagnetic, and other physical phenomena elements. Cost of volume: \$A70.

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