



# AUSTRALASIAN ASSOCIATION FOR ENGINEERING EDUCATION

## NEWSLETTER

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Sydney, September 1993

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*The picture above shows an aerial view of the Clayton campus at Monash University, Melbourne, Australia. Monash University is the largest and most dynamic university in Australia. On the recommendation of the UNESCO Steering Committee on Human Resources Development for Technical Industry Stimulation, the Faculty of Engineering at Monash University, under the leadership of AAEE President, Professor Peter LeP Darvall, has recently established the UNESCO Supported International Centre for Engineering Education. More details in this Newsletter.*

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*This issue is sponsored by*

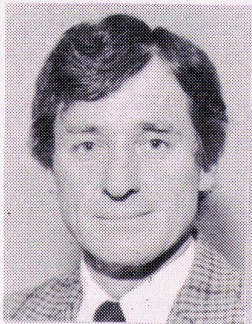


**MONASH UNIVERSITY**

Australia's International University



## FROM THE PRESIDENT



*Prof. P. Darvall*

### Internationalisation of Australian Engineering Education

In the last newsletter I wrote of the important role of FEISEAP and AEESEAP (see last newsletter for the names spawning these acronyms), and of the UMAP project and the significance of the WFEO environment committee etc.

Australasia has had a significant number of international students in its engineering schools for many years. Foreign graduates from our universities may be found all over the world with many in senior positions in the profession. As many of us have always believed, these Australian graduates were the best value for money in foreign aid terms, in the days when we subsidised their places. Now (since 1990) that we charge full-fees for almost all of the large body of overseas students that we have in our engineering schools, we are doubly fortunate in having the opportunity to influence the future engineering professionals of many countries of our region, as well as balance our budgets with the fee income. The major providers of international students are Malaysia, Hong Kong, Singapore, Indonesia and China, in that order, with lesser numbers from other countries in South-East Asia and the Indian sub-continent, in particular. Some 11% of all overseas students in higher education in Australia are in engineering, whereas the proportion of Australian students in engineering is 8%. Nearly 40% of all overseas students in Australia are in the business area. The major providers of programs for overseas students are Monash University, The University of New South Wales, RMIT and Curtin University of Technology, in that order.

The internationalisation of Australasian engineering education is sure to grow, in more ways than reflected in sheer numbers. Engineering programs in non-English speaking countries of our region will probably grow, allowing the exchange of students for short or long periods across national boundaries. Just as in Europe and North America students are often required to take a semester of study in a university in another country as a requirement of their degree, so I believe this practice should and will grow in Australasia. Likewise the large ethnic populations in some of our major cities will provide a pool from which many students from non-English speaking family backgrounds will find opportunities in the country of their origin to spend some time studying for their Australasian degree.

Two recent events highlight our growing internationalisation. The first was the announcement of a UNESCO supported International Centre for Engineering Education at Monash University. The Centre's main role will be to act as a clearing house for engineering education equipment, courseware and software for developing countries. The Centre is seen as part of the north-south dialogue with Australia, in this case, standing as a country of the north located in the south, and eager to assist in developing engineering and technology education in developing countries. Clearly the opportunities to break down cross-cultural barriers, in this case in engineering education, are great, thereby promoting international trade, good-will and development. This development is also consistent with the growing practice of Australian engineering countries to recruit foreign nationals directly from Australian engineering schools to assist in development projects in their own home countries, since they already have the appropriate language skills and cultural knowledge. The UNESCO supported Centre was set-up on the advice of the UNESCO Steering Committee on Human Resources Development for Technical Industry Stimulation. It is seen as an acknowledgment of the high standard of engineering education in Australia. Monash University certainly hopes that other Australasian universities will participate in the work of the Centre, which will include research into appropriate teaching and learning methodologies in engineering. It is anticipated that there will be considerable activity relating to our part of the world and in other countries not so familiar to us such as in Africa, South America and Eastern Europe.

The second recent development has been the announcement of acceptance in principle of



Australian (Monash) sponsorship of a new comprehensive university in Vietnam as part of its renovation policy. The Vietnamese government has decided to plan for a new university of western style different from its present eastern style discipline-specific universities such as the University of Foreign Trade, the University of Transport and Communications, etc. In a country of seventy million people there are only roughly one hundred and twenty thousand students in higher education. The country's resources are stretched in renewing its infrastructure, providing appropriate public health programs, etc so it is anticipated that there will be a need for significant international aid resources to develop higher education in Vietnam. With the recent announcement of the lifting of restrictions on the use of International Monetary Fund assistance to Vietnam, the prospects are much brighter. Australian business and industry, including engineering industry, has been at the forefront of development activity in Vietnam. The new higher education developments will go hand in hand with this activity and will provide great opportunities for Australians and Australian companies to be involved in and contribute to the internationalisation initiatives of its former enemy. I am sure we all believe this to be a gratifying turn of events.

*Professor Peter LeP Darvall  
Dean of Engineering  
Monash University  
President of AAEE*

#### UNESCO REWARDS MONASH UNIVERSITY WITH ICEE CENTRE

Many readers will recall AAEE newsletter discussions on the feasibility of preparing a submission recommending that an International Centre for Engineering Education be established in Australia (see Vol.5, No.1 and No.2).

With the visit to Paris earlier this year by AAEE President Professor Peter LeP Darvall and Executive Director Dr Zenon Pudlowski, to offer a submission to the UNESCO Steering Committee on Human Resources Development for Technical Industry Stimulation, that dream has come true.

Not only has the UNESCO Committee announced the endorsement of the first worldwide UNESCO Supported International Centre for Engineering Education (ICEE), which will be located at Monash University in Melbourne, Australia, it has vested the responsibility for establishing the Centre in Professor LeP Darvall, as Foundation Chairman of the Academic Council, and Dr Pudlowski as its Foundation Director.

Readers will find the ICEE key objectives in Vol.5, No.2 of the AAEE Newsletter, but briefly, the Centre will be a clearing house for information on textbooks, software, teaching equipment and so on, for engineering education in developing countries. This will include the specific mission to transfer information, expertise, methodologies and research on engineering education from developed countries to developing countries worldwide. Particular emphasis is placed on Asia and the Pacific region.

UNESCO Assistant Director-General for Science Dr Adnan Badran believes that the project, through an action-oriented agenda, will be of major international benefit to engineering education in developing countries, and therefore for technical development and economic progress.

With the immediate establishment of the ICEE at Monash, we now have an *international ball* at our feet. With the expertise and talents that we have in Australian engineering education, we can make more significant contributions to global engineering education methodologies and research. Let us, then, work collectively towards contributing, enhancing and promoting our professions on the world stage!

To fulfil the tasks and objectives which this new initiative at Monash will require, AAEE first Vice-President and Executive Director Dr Zenon Pudlowski has been offered the post



of Associate Professor, Associate Dean (Engineering Education) and Director of the UNESCO Supported International Centre on Engineering Education.

While his natural zest and enthusiasm for engineering education are reflected within the pages of AAEE publications, an attributing factor to Zenon's appointment is his outstanding performance in engineering education research and his initiatives in the local and international activities on engineering education. This includes his sheer perseverance in getting the AAEE established as a recognised activity within the engineering profession, as well as a legitimate stream of engineering and one which overlaps all engineering specialties.

I am sure that you, the reader, will join me in offering congratulations to Monash University on this coup, and especially the Faculty of Engineering under the leadership of Professor Darvall, and Executive Director Dr Pudlowski.

Dr Pudlowski will take up his appointment soon. May we extend to Zenon our heartfelt congratulations and best wishes for his future success.

*Dr William N. Roebuck*  
Secretary/Treasurer of AAEE

## QUALITY IN ENGINEERING EDUCATION RESEARCH \*

### Introduction



*Prof. T.W. Cole*

If engineering education research is to be seen as an important field of endeavour, then the issue of quality must be addressed. This paper discusses *quality* in the field of engineering education research. Clearly, some research programs, and some researchers are much better at quality research than others. Some research seems relevant and is sought after and has major impact. Other research might be published but have no impact at all.

It is proposed that the success of some research and some researchers is not a matter of accident. The critical factors to research quality are identified and addressed. In particular, the current and future issues around which engineering education research should be developed are presented.

### Research as science and culture

The concept of research is a product of the scientific revolution. The previous empirical approach to understanding the physical world gave way to the experimental method - testing an hypothesis through measurement and calculation. It is at this time in history one sees a diversion of the ways between the practical professionals and the new breed of scientists.

Science retreated into a world of mathematical models of increasing complexity, abstraction, and in some cases remoteness. An extreme is research on the origins of the universe - not quite the field where empirical or direct observation can be used.

The scientific method, with its cyclical process of hypothesis, experiment, analysis, new hypothesis then new experiment, had as its purpose the understanding of nature. It was in the field of natural philosophy, of a cultural understanding, and often far far removed from the human scale and world around us.

The success of the scientific method and the respect and credibility given to those individuals and laboratories who excelled led to *research* being the catchphrase of all sorts of endeavours. In the humanities and arts where one used to undertake scholarship, one



now did research. An attempt to transfer the techniques of science to psychology, sociology, philosophy, history, etc. led all too often to pretension and cant. All too often, it led to an aloofness from the real world of application in a vain attempt at respectability within the traditional academic hierarchy.

Engineering has not been immune. It too, at times, has sought respectability with its scientific colleagues by an abstract and remote form of research which, in the long run, has never done the profession nor its members any good.

The issue is one of application. Whereas science might well be based on a cultural need to understand, in engineering we have a need to apply. The distinction between the scientific method and the needs of engineering is quite clear.

The research must, as a minimum, follow the technique used by consultants McKinsey - What is the issue? and then What facts, if proved true or false, would deliver a workable hypothesis, and test it?

### **Identifying the customer**

We know that in the business world there are successful businesses and those which falter and founder. Similarly in science and engineering there are successful individuals and centres in which the most obvious distinguishing feature is their clear understanding of a *customer* for their work and a well developed ability to match the products of their work to the *needs* of the customer.

In these successful groups one sees a crystal clear understanding of the field of endeavour in which the group is operating. In other words, there is a clearly defined definition of the scope of interest and work - the group knows exactly *what business it is in*.

It knows and has articulated whether it exists to advance cultural elements in society, whether it exists to assist government, industry, individuals. It knows whether its work is targeted at the public, other professionals in the same field, or in other fields.

These are the markets for the results of the work. These markets, if they appreciate the value in what they see, will be the source of funding and reputation on which the future viability of the group and its individuals will rely.

### **Engineering a reputation**

Just as in business, just as in science, so it is in engineering education research, that effectiveness, success, reputation and *profit* depends on a business plan clearly articulating the *product* which is being created, the market to which it is addressed, the *profit* which comes from transferring the product into the market, and the right balance of skills and attitudes.

But as Jens Bernson, head of the Danish Design Board, has said, *The need comes first*.

Quality in engineering education research begins then with the definition of the problem. And if a solution to that problem would make a significant improvement in the effectiveness and efficiency of engineering education, then all the more reason to consider investment of resources to attempt to find that solution. We need to remember that we are engineers. And as engineers we are particularly well trained to design solutions to problems. Research is not a process of *suck-it-and-see*, nor is it a process of abstract hypotheses and dispassionate experimentation.

Instead, engineering research is a process in which the solution is designed - where the significant elements of the available information are never enough to permit of only one solution. But where engineering experience and feeling for the problem leads one to jump to a potential solution which is refined by analysis and simulation. The more innovative the



solution, the more value which is added to previous approaches, the more quickly the solution appears, so is enhanced the potential for success and impact.

Just as the technological leadership of Japanese products is successful, so is the solid, more conservative engineering of German products. One can become either a leader or follower. Similarly in engineering education research one can be successful as either a leader or follower. In both cases, there is a market and the business can succeed.

As a leader, one is continually injecting new concepts and approaches which catch the other researchers and groups by surprise. As a follower, one is more cautious in selecting concepts introduced by others and then injecting a more disciplined analysis and improvement.

But one also notices the capacity of these successful companies to say no. They have a capacity to continually review the progress of each and every product concept and development. They undertake a cost-benefit analysis in which the perceived benefit of the product going into the market must more than compensate for the investment in resources needed to develop the product. So in good research, one monitors the outcomes from a program and one is prepared to abort that research when the rate of return on the effort is below that needed to sustain the group's reputation.

#### **Communicating the quantified benefit**

No matter how innovative or impressive the results of the research, it matters nothing unless these results are communicated to the appropriate market - not only communicated but also implemented.

This is a process of communication, in choice of recipient, choice of medium, and choice of a message format optimally likely to succeed.

#### **Megatrends in engineering education**

For engineering education research, the field of business is the education and continuing development of that workforce which sustains engineering-based enterprise. Major changes are occurring in this field and these create opportunity and need for effective engineering education research.

We see a world-wide trend for universal higher education. One no longer has just a few percent of the population in higher education. Rather, one sees the majority of young people entering higher education. One sees an increasing number seeking an engineering education at a range of levels from technician, to associate, to professional. One sees this expansion at the same time as an inability of government to sustain the funding levels to each student.

Within the profession one sees an increasing sense of urgency brought about by increased trade in manufactured product, increased globalisation of business, increased competition, reduced timescales, and greatly increased demands for efficiency and effectiveness. In this changing world, the professionals are entering a lifetime of learning in order to keep up and to expand their skills base.

The customer as well as the employee is requiring a better understanding of the human dimension, of the environment, and of the evolving ethics within our societies.

#### **Identifying the issues**

One sees, then, a rich field in which to map out an engineering education research strategy. There are key issues which can significantly ease the task of engineering education within this changing world. Seven of these are as follows:



- \* Self-directed learning - in which a shrinking number of academics use improved learning materials which the students follow themselves - without any degradation in the quality of the learning process and its outcomes.
- \* Information technology - in which the incredible and advancing power of the new technology replaces much of the traditional approach to learning.
- \* Abstraction and concept learning - in which the rapidly advancing technology on which engineering is based must be approached through ever-more abstract concepts and models.
- \* Personality - in which the human element of engineering education better prepares the person for the challenges and demands of the new professional lifestyle.
- \* Alliances and cooperation - where the increasing complexity and decreased available timescales means that research must be carried out as a shared and cooperative exercise through alliances.
- \* Cost reduction - in which more is achieved with less.
- \* Time compression - in which the same degree of understanding, knowledge, skill and attitude is achieved in less time for both student and academic.

In all these, and others, one can identify topics for engineering education research. Any individual or group which consistently provides techniques and approaches addressing these issues and which disseminates them into practice in engineering education will soon be appreciated and rewarded.

The field of engineering education research will rely on these successes in order to attract the continuing funding for its future survival and growth. If engineering education research is not seen to help in these urgent and pressing issues, then it will be bypassed. We do not want to see engineering education research shunted to the sidelines of endeavour as yet another irrelevant, inward looking and pointless branch of the humanities.

#### **Where to now?**

The East-West Congress represents one important way that the cause of engineering education research can progress. At such meetings, relevant issues and trends can be identified and agreed. Alliances and cooperation can be forged. We can be constructively critical of the work of groups and individuals.

But we can also focus our discussion on the issue of quality itself. Not implicitly, but clearly and explicitly, the conference can ask questions about needs, markets, products, profits, value, customers, dissemination, and reputation. And just as it can be done at conferences, so it can be done within organisations and groups. So, also, can one demand of editors to journals a higher degree of critical judgement providing clear feedback to potential authors on the focus of the engineering education research effort.

Finally, we should applaud and reward excellence and success.

*Professor Trevor W. Cole  
Department of Electrical Engineering  
The University of Sydney*

- \* *A keynote address to be presented at the 2nd East-West Congress on Engineering Education.*

#### **ROLE FOR WORLD LEADERS IN 'GLOBAL GRADUATE' PLAN**

A working group of experts worldwide should develop learning materials aimed at turning graduates into *global engineers*, a UNESCO conference was told in June.

The International Congress of Engineering Deans and Industry Leaders, which was held at the headquarters of the United Nations Educational, Scientific and Cultural Organisation in



Paris, drew 260 participants from 60 countries worldwide, with 140 communications presented in the plenary and six round-table sessions.

At the round-table discussions, it was suggested that the model for the planned development of study and educational materials for the global engineers project could be UNESCO learning materials in engineering sciences.

Plenary sessions saw presentations from Minister Curien and Deputy Prime Minister Demchuk of Belarus.

The Congress attracted two deans of Australian engineering faculties, *So progress has been made, as no Australian deans had attended the 2nd Symposium for Engineering Deans and Industry Leaders held at UNESCO headquarters in 1991*, Zenon Pudlowski said earlier.

Five senior international and regional executives opened the Congress, which was organised jointly with the International Union of Technical Associations and Organisations (UATI). The Steering Committee included national and international organisations.

Congress topics ranged from the development of mechanisms of university-research institutions, industry cooperation - R&D networking; preparation of engineers for effective contribution to the needs of national economies; to quality engineering training in developing countries.

Director-General for Science, Research and Development of the Commission of the European Communities, Mr Fasella, in a presentation to the Congress, described the types of innovative methods which the Commission is using to smoothly transfer technology worldwide and within its member countries.

Representatives who presented programs on technology transfer included UATI members, and the Director-General of UNIDO, who called for more cooperation and collaboration between North, East and South. Mr de Maria y Campos also outlined UNIDO's developing industrial infrastructures and the promotion of international technology transfer.

A hoped-for spinoff from the Congress is the promotion of one or two projects on international cooperation between universities, research, education and training institutions, and industry.

#### **UNESCO action list**

The *intensive and varied debate and discussions*, UNESCO Assistant Director-General for Science Adnan Badran said in a speech to the Congress, resulted in nine substantial recommendations for UNESCO to follow up, such as pilot projects on cooperation between university, industry and science, with Congress institutions taking part in discussions; the promotion, possibly with distance-learning institutions, of the satellite-delivery mechanisms for courses in continuing engineering education; the creation of databases and distribution of information through electronic mail, internationally and regionally, to document case studies in areas such as existing successful and failed cooperative mechanisms, including technology transfer units, technology parks, incubators and so on.

UNESCO will also consider the establishment of directories, within the UNISPAR program, of engineering universities wishing to join university research and industry co-operation; and the encouragement of national experts to define national needs in database and information distribution before designing programs for international collaboration.

*A useful starting point for the database in Latin American countries*, Mr Badran added, *are the two UNISPAR pilot projects.*

Strategic measures for national and regional congresses will be considered, to increase the rate of participation of industry representatives in future congresses. And part of the



UNISPAR program could include the establishing of UNESCO Chairs, industry-sponsored and based at universities.

Before publishing Congress proceedings, UNESCO is to produce a report summarising the results and recommendations. And it will examine the feasibility of a network which would contain all past and future UNESCO congress participants.

To compare engineering degree programs nationally, regionally and internationally, a joint UNESCO/World Federation of Engineering Organisations working group could be established. *The abridged recommendations will further be elaborated to include details suggested during the debates in the round tables, Mr Badran said. They will then be used to revise the UNESCO UNISPAR program to render the project more practical and specific to identified groups and different regions.*

*Whilst your presence here has been brief and intensive, UNESCO would ensure that your deliberations on improved methods in technology transfer and development make a decisive contribution to the universal circulation of ideas, knowledge and culture in the context of global technological development.*

In his final address at the Congress Mr Badran paid tribute to organisations with which UNESCO had collaborated. *It is my belief that the Congress, which was the third in the series, has been a success, and it once again demonstrates what UNESCO can achieve through working with experienced, non-governmental organisations.*

A direct result of the Congress is a UNESCO-supported International Centre for Engineering Education, which is being established at Monash University in Victoria, Australia. See details in this issue of the AAEE Newsletter.

Krys Barbara Wareing

## FORTHCOMING CONFERENCES ON ENGINEERING EDUCATION

**Engineers** and scientists can take the opportunity in Romania to discuss the impact of computers on higher education and new developments in CAE, at the International Conference on Computer Aided Engineering Education, 22-24 September 1993.

Conference Host is the Politehnica University in Bucharest, with key sponsors including SEFI, American Societies, as well as Romanian government departments.

Write to CAEE '93 Secretariat, Politehnica University of Bucharest, Spl. Independentei 313, 77206 Bucharest, Romania. Tel.: +40 1 7816984. Tel./Fax: +40 1 3121190; e-mail: daniel@pi-bucuresti.th-darmstadt.de.

**Bonjour.** France is the destination for Telecom Paris' International Conference on Computer Aided Learning and Instruction in Science and Engineering, August 31 and September 1-2, 1994.

Highlights include Scientific Courseware Development, authoring tools, methodology for improving CAT production and use, and Experimentation in Educational Software Development and Exploitation.

Among the sponsor institutions is the Ecole Polytechnique Federale de Lausanne. Preliminary papers are welcome; deadline date is January 15, 1994. Write to Jean-Louis Dessalles, CALISCE'94, Telecom Paris, Departement Informatique 46, rue Barrault, 75634 Paris Cedex 13, France. Tel.: +33 1 45817870. Fax: +33 1 45813119; e-mail: dessalles@enst.fr.

**The engineer** as Manager is the focus of the 3rd European Forum for Continuing Engineering Education in Vienna, Austria, from 9 to 11 November 1994.



Topics examined will include the relationship between training and education and R&D; the market for continuing professional development; and the future role of the engineer. Organisers for this innovative conference include the Societe Europeenne pour la Formation des Ingenieurs and the Federation Europeenne d'Associations Nationales d'Ingenieurs.

There is a call for the submission of papers. Send a short summary of your Paper in English, 1 - 2 pages, by January 15, 1994 to Dr Franz Reichl, University of Technology, University Extension Center, Gusshausstr. 28, A-1040 Vienna. Tel.: +43 1 58801/4029; Fax: +43 1 5054961. Internet: reichl@email.tuwien.ac.at.

**The role of women** is centre place for Lancashire University, from September 21 to 23, 1994. This joint conference between the University of Central Lancashire, UK, and the Beijing Institute of Technology, has the topic, The Development & Role of Women in Technology, and will be held in Beijing, China.

Specialist and generalist contributors are welcome.

Support for the conference also comes from UK-based General Electric Company, Women into Science and Engineering, and the Royal Academy of Engineering.

Abstracts of not more than 250 words should be typed on A4 paper and submitted by 30 November 1993, to Di Gibney, Faculty of Design and Technology, University of Central Lancashire, Preston PR1 2TE, UK. Tel.: +44 772 893162. Fax: +44 772 892901; or Prof. Li Shizhi, Dept of Electronic Engineering, Beijing Institute of Technology, PO Box 327, Beijing 100081, China. Tel.: +86 1 8416688-2601. Fax: +86 1 8412889.

**Papua-New Guinean** hospitality for those who attend the Fourth Triennial International Conference of the Association for Engineering Education in South East Asia and the Pacific, at Lae, November 13-16, 1994.

The theme is Engineering Education: Achievements and Challenges, with topics covering management, education as an exportable commodity, computer-aided education, evaluation and assessment, and education in developing countries.

Abstracts of 200 words should be sent before February 1 to Dr Nimal Subasinghe, Conference Organising Committee, Dept of Mining Engineering, PNG University of Technology, Private Mail Bag, Lae, PNG. Tel.: +675 434671. Fax: +675 457534.

**The interrelationship between Science, Technology and the Law** will be examined at the ICDI '94 in Beijing, May 10-13, 1994.

Support for the International Conference on Development and Interaction of Economy, Science and Technology, and Law, includes the China University of Political Science and Law.

Camera-ready abstracts are invited, two pages maximum in English, B5-size, 140x200mm by February 20, 1994. Send to Mr Tao Hao and Mr Yan Shuling, CICCST/ICDIESTL '94 Secretariat, 44 Kexueyuan Nanlu, Shuang Yushu, Beijing 100086, China. Tel.: +86 1 2577950 or +86 1 2572213. Fax: +86 1 2577950 or +86 1 2575691.

**The UNESCO-sponsored 3rd World Congress on Engineering Education** will be held in Cairo between November 14 and 18, 1994.

Topics under the Congress theme, *Quality of Engineering Education An International Perspective*, include everchanging technologies, standards and codes, and multicultural engineering communities.

Congress organisers are the World Federation of Engineering Organisations and the Egyptian



Syndicate of Engineers.

Submit preliminary papers to Dr Saad M El-Raghy, Faculty of Engineering, Cairo University, Cairo, Egypt.

KBW

## A CALL FOR RENEWAL OF MEMBERSHIP

At the 4th Annual General Meeting the Executive Committee did not seek to increase membership fees, and it was decided that membership fees for 1993 remain the same as they were in 1992. Association members are kindly asked to renew their membership, and to encourage their colleagues who are not members of the AAEE to join our Association. AAEE members who are corporate members of the IEAust are encouraged to renew their AAEE 1993 membership through the IEAust, using the IEAust's 1993 Subscription Form.

The final call for renewal of membership is therefore made and a single-page reminder is included in this issue for those who have not, as yet, renewed their membership of the AAEE. At the end of October, names of the persons who have not paid their dues will be deleted from the register.

## 2ND EAST-WEST CONGRESS ON ENGINEERING EDUCATION

As the second largest national group at the September Congress on engineering education in Lodz, British academics will also show their commitment to fostering relations between East and West through presenting a number of excellent papers.

Chairman of the International Liaison Group on Engineering Education (ILG-EE), is Professor Terance V Duggan. Prof. Duggan, Dean of Engineering at the University of Portsmouth, has strongly supported and promoted the Congress internationally. Prof. Duggan chaired the 3rd World Conference on Engineering Education at Portsmouth University last year.

Through such promotion, the international links and collaboration on engineering education inevitably are strengthened. While the 2nd East-West Congress on Engineering Education will see many nationalities in attendance, the particular commitment of several groups should not be overlooked.

Australia's involvement in the establishing of the International Faculty of Engineering and the development of the first degree program, which will be celebrated in Lodz this month, is acknowledged as a welcome, and innovative move. Patron of this project is the Australian Ambassador to the Republic of Poland, His Excellency Anthony C Kevin, a distinguished Guest of Honour of this international meeting of engineers and academics.

Academics and engineers attending the East-West Congress will also witness the opening of the new undergraduate degree program in electromechanical engineering at the Technical University of Lodz. This initiative, the result of co-operation and collaboration across the global academic spectrum, will result in professional engineers who are trained specifically to meet appropriate needs of the region, but an added emphasis will be a global perspective; a celebration of the *international engineer*.

This, the second of many projected congresses on engineering education, is a joint venture between the Electrical Engineering Education Research Group and the Australasian Association of Engineering Education; one aimed at fostering the involvement of Australians in Central and Eastern Europe.

Collaboration between the two groups was established to assist educational institutions in



Central and Eastern Europe in restructuring their university engineering courses. The benefits of such collaboration is celebrated at Lodz, under the Congress theme *Enhancing Engineering Education Research*; an event which will see the presentation of about 100 papers and special addresses.

While the Congress, which will also host the 6th Meeting of the International Liaison Group on Engineering Education, will present and discuss developments in R&D in engineering education worldwide, it will particularly stress the relevance of quality research in engineering education on the training of engineering personnel for the 21st century.

KBW



*By the time this issue is in circulation, the 2nd East-West Congress on Engineering Education will be under way at the Technical University of Lodz, Poland. Pictured above is the palace once lived in by the Poznanski family, former industrialists in Lodz. The Congress' Official Opening Ceremony will be held here, in the Reception Hall on Sunday, 19 September 1993.*

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For details of the Association and membership applications write to the Editor:

Dr Zenon J. Pudlowski, Department of Electrical Engineering, The University of Sydney, SYDNEY, NSW 2006, Australia, Tel. (02) 692 2000, Fax: (02) 660 4706 or (02) 692 3847

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*Association members and tertiary institutions are invited to contribute to the Newsletter on matters relating to membership and engineering education.*

*Send contributions to the Editor at the above address.*