

# Engineering education world

*Contributions are invited for this feature. News items on policies that concern the engineering education world, new courses and curricula either of a unique nature or of international interest, new innovative laboratories and concepts, funding news for engineering research projects involving international participation, special international continuing education courses and news, industry-university interaction, engineering faculty news, and developments in engineering education of international interest. Please send news items and conference information to the Editor-in-Chief. Public relations offices of universities and human resources divisions in industry are requested to contact the Editor with news items concerning engineering education and training.*

## Europe

### *The European Credit Transfer System (ECTS) birth pains*

An essential ingredient of effective student mobilities between different countries is a credit transfer system between institutions. Eighty-one institutions of higher education have been participating in the European Course Credit Transfer System which has recently been evaluated by the management consultants **Coopers & Lybrand**. The report has found that there are no hard and fast rules for credit transfer between institutions and that most of the credit transfers were dependent on trust between departments and were agreed in advance. It is apparent that the translation of credits from a host institution depends on the understanding of the levels of education involved. It is, however, not really so difficult in engineering disciplines, where a detailed review of course content and examination requirements and levels can provide a clear picture of formal compatibilities. What is more difficult to assess are the advantages of cultural environments, student services and supervision levels. These factors are dependent on student to academic and service staff ratios, which may offset some of the formal comparison results.

### *Large and small market success stories of European sponsored R&D*

The UK computer manufacturer **ICL** has been successful in developing the Goldrush Megaserver, capable of 6000 parallel processing operations per second at a price one-tenth that of currently available processors. Goldrush was supported by the Esprit program. Another program, COMETT, is responsible for the timely development of an interactive multimedia training tutorial for the Autodesk product *Autosketch*. It was developed by the **Hamburg Educational Partnership**, and is available on a single diskette with 5 Mb of compressed data. The product is marketed in German and English, with other languages under development, by the major distributor for Autodesk products in Germany and the UK.

## Europe-CIS

### *Collaboration with eastern Europe*

A sum of around 22 m. ECU (around \$26.5 m.) is being allocated by the European Community for scientific and technical co-operation with the former Eastern Bloc countries. In the first phase 54 projects have been approved. Many universities are taking part in the scheme. A typical project has two western partners working with one or two institutions from the former Soviet Union. Typical grants are of the order of between 100,000 and

200,000 ECU. The major part of the funding—a minimum of 80%—has to go to the so-called eligible countries in eastern Europe. The project is named Co-operation with Scientists from the Independent States and former Soviet Union—soon to be known as Association Athena.

## Germany

### *Combining studies with vocational practice*

People with entrance qualifications for higher education but who entered a profession after school can now obtain a degree in electrical engineering via part-time studies at the **Fachhochschule Koblenz**. They attend lectures one afternoon a week and on Saturday mornings, and also have a shortened six-week break in the summer. The pilot project is intended to serve as a model for the development of higher education facilities for professionals in Germany, where an increasing number of older students are looking for qualifications while continuing in employment. Small and medium sized companies are interested in junior staff development, which is usually available only at larger companies with training and development schemes.

### *Vocationally trained students on the increase*

Coupled with a general decline in the number of youngsters undergoing vocational training, an increase in the number of vocationally trained young people taking up higher education studies has been registered. Almost four out of ten students have undergone such training, compared with only one in four seven years ago. This is reported by the Higher Education Information Service (HIS) in Hanover. In Fachhochschulen 73% of all students have undergone vocational training, compared to only 48% in 1986. This phenomenon accounts in part for the long study times reported in Germany. A further factor is the partial financial security students obtain by being able to fall back on their original profession during studies.

### *State bonus for universities with more graduates*

The state of North Rhine–Westphalia—known for its active minister of education, **Anke Brunn** (see Personal View, Vol. 8(3), 169–172, 1992)—has revised its policy for allocating funds for teaching and research. Henceforth the number of graduates produced by a university is going to influence its share of state funding. The biggest loser in 1994 is going to be the **University of Bochum**, which loses DM630,000; the biggest gain is to be made by the **Technical University of Aachen**, which will gain about the same amount as Bochum has lost. Some university rectors ('the losers') fear that this policy will create pressure on institutions to foster only lucrative courses, dropping peripheral and exotic degree opportunities. This policy is part of Minister Brunn's emphasis of the student as client and that financial benefits should depend on the retention

rates of the universities. Current retention rates average only 70% in the Federal Republic.

## United Kingdom

### *Worldwide de- or re-valuation?*

The tendency of promoting all teaching academics to the rank of professor is gripping Oxford University. Professors used to be rare as most college fellows never reached this title, even if they were distinguished and well known. Now a debate is going on whether all 1150 fellows at Oxford should receive the desirable title. This will lead to a less prestigious position for the title—ridiculed by some as 'mickey mouse' professorships bestowed on some with lesser academic achievements.

This parallels the situation in the USA and Germany where all academic 'teachers' are professors. And for that matter high school teachers in Austria are also professors. This is another episode in the saga 'what is in a name' or a title (see Editorial in the previous issue).

## The Netherlands

### *Quality assessment of world quality*

The Dutch have a quality assessment scheme that puts the responsibility on its 14 universities to regulate themselves. The responsibility lies with the VSNU, the association of Dutch universities, which has formed 28 quality assessment committees which visit every faculty and educational institution. The committee members come from both the higher education and private sectors.

An expansion of the scheme to 60 committees is planned. The system has prompted many changes in the university system and structure since its inception in 1988. A recent VSNU recommendation is the extension of electrical engineering degree studies to 4½ or 5 years. Such fundamental changes transferred to other disciplines form a major issue of debate for the Ministry of Higher Education. The success of the Dutch scheme is evident in the plans by Portugal to adopt the scheme, and by approaches from Finland, Sweden, Germany and Spain who are also considering it.

## USA

### *Engineering salaries—women are doing well*

Although there has been little movement in the salaries of engineers since 1991, women with a BS degree in petroleum engineering have been recruited with the top salary of \$42,900 per year. Male petroleum engineers were, by comparison, offered \$38,120 starting salaries. Average pay for professional engineers as reported by the National Society of Professional Engineers was \$57,000 per year. Ph.D. engineers average around \$82,000. Engineering faculty earned top faculty compar-

tive salaries except those in law and medicine. Engineering faculty average about \$57,000 with full professors making a median of over \$70,000. Full information is available in *Salaries of Scientists, Engineers and Technicians: A Summary of Salary Surveys* from CPST, 1500 Massachusetts Ave. NW, Washington, DC 20005, USA.

## Canada

### *Murdering mechanical engineering professor*

A former Concordia University professor of mechanical engineering, **Valery Fabrikant**, has been convicted and sentenced to life for murdering four faculty members, and holding two more members as hostages. One of the reasons given by the defendant was that he had grievances against the administration regarding his promotion from associate professor, and the handling of his application for sabbatical leave. In a turbulent trial, the defendant was interrupted from giving evidence in his own defence due to offensive and uncontrolled behaviour in court.

## Australia

### *Back to the gown?*

Bond University—Australia's private institution of higher education (see *Technology Education for 21st Century Needs* by D. W. Watts, first vice-chancellor of the university, in Vol. 5, 651–656 of this journal)—has been debating whether to introduce academic gowns to distinguish students from non-academic townspeople. While gowns were abolished as compulsory wear at the beginning of the 1960s in traditional British universities such as Cambridge, students in the hot and humid Australian campus rejected their introduction there in the 1990s. Some students felt that gowns would contribute to the ridiculing of students in town. One reason for abolishing gowns in Cambridge was that gowns worn by students in labs got caught in Bunsen burners and caught fire—it wasn't the weather.

## India

### *Privatizing education?*

A cabinet subcommittee has been set up to study the norms and fees at private professional institutions. The government of India is ruling out the privatization of higher education but is encouraging institutions to raise their own funds in view of the resource crunch faced by the government. The arguments are for free education for the poor and deserving and paid education for those who can afford it. The university grants commission is destined to play a bigger role than hitherto in monitor-

ing higher education in view of the rapid expansion of the sector.

## India—West Indies

### *Is the English language becoming a burden?*

Statements coming from different parts of the globe raise the question whether prevailing local cultural environments may supplement or even replace English as the language of communication in higher education and research. A communication by **M. N. Desai**, vice-chancellor of Gujarat University, raised the question of whether India could continue to use English as a language for communicating developments in science and technology as an increasing number of students and staff of the expanding higher education system have difficulties in using English proficiently. In a similar vein **Alister McIntyre**, vice-chancellor of the University of the West Indies, proposed that the university could not remain an English-speaking enclave if it is to fulfil its mission in tertiary education. In the West Indies, a considerable effort to expand education with distance learning facilities, such as teleconferencing, is underway.

## Vietnam—Australia

The new **Hanoi Institute of Technology** is being set up with the help of **Monash University** in Australia. Australia has a vested interest in developing higher education in Southeast Asia according to **Peter Darvall**, dean of engineering at Monash and its deputy vice-chancellor. In the long run Australian industry could profit from this involvement in higher technological education. The Monash involvement follows a pattern with the establishment of a UNESCO centre there and the interest of Professor Darvall in engineering education. He also serves as the president of the Australian Association of Engineering Education which has been active in other overseas ventures, especially at **Lodz University** in Poland through its secretary, Dr Zenon Pudlowski (see also paper by the author in this issue). Australia has won this association against bids from France and The Netherlands. One may speculate that the dynamism shown by the Australians has outpaced the caution and bureaucracy of the old world.

## Conferences

### **First Eurocad Forum**

Bologna, Italy

16–18 June 1994

Inaugural Meeting of European Lecturers in CAD

Contact: Eurocad, Leicester UK

Tel:+44 533522408 Fax:+44 533 522028

**ASEE Annual Conference**

Edmonton, Alberta, Canada  
 26–29 June 1994  
 Contact: American Society for Engineering  
 Education  
 1818 N.St., NW  
 Washington, DC 20036, USA  
 Tel:+1-202 331350 Fax:+1 202 265 8504

**IEEE First International Conference in Multi-Media Engineering Education**

6–8 July 1994  
 Melbourne, Australia  
 Contact: Dr M. Aldeen, Department of Electrical  
 and Electronic Engineering  
 The University of Melbourne  
 Parkville, Victoria 3032, Australia  
 Tel:+61 3 3447298 Fax:+61 3 3446678

**Calisce '94**

Computer Aided Learning in Science and  
 Engineering  
 31 August–2 September 1994  
 Telecom  
 46 rue Barrault  
 75634 Paris Cedex 13, France  
 Contact: Jean-Louis Dessalles  
 Tel:+33 145817870 Fax:+33 1 45813119  
 e-mail dessalles@enst.fr.

**Visions and Strategies for Europe**

Joint SEFI and IGIP Annual Conference  
 21–23 September 1994  
 Czech Technical University, Prague  
 Czech Republic  
 Contact: Jan Pozar  
 Dept. of International Relations  
 Zikova 4  
 16635 Praha 6, Czech Republic  
 Tel:+42 2 332 3465 Fax:+42 2 311 9692  
 e-Mail seig@vc.cvut.cz

**3rd European Forum for Continuing Engineering Education**

9–11 November 1994  
 Vienna Austria  
 Contact: Dr Franz Reichl  
 Vienna University of Technology  
 Gusshausstrasse 28, 1040, Vienna, Austria  
 Tel:+43 1 58801 Fax:+43 1 5054961  
 e-mail Internet. reichl@email.tuwien.ac.at

**The Development and Role of Women in Technology**

21–24 September 1994  
 Beijing Institute of Technology  
 Beijing, China  
 Contact: Professor Li Shizhi  
 Beijing Institute of Technology  
 PO Box 327, Beijing 100081, China  
 Tel:+861 8416688 Fax:+86 1 8412889

**Fourth Triennial International Conference of the Association for Engineering Education of South East Asia and the Pacific**

13–16 November 1994  
 Lae, Papua New Guinea  
 Contact: Dr Nimal Subasighe  
 Department of Mining Engineering  
 PNG University of Technology  
 Private Mail Bag, Lae, Papua New Guinea  
 Tel:+675 43671 Fax:+675 457534

**Third UNESCO World Conference on Engineering Education**

14–18 November 1994  
 Cairo, Egypt  
 Contact: Dr Saad M. El-Raghy  
 Faculty of Engineering, University of Cairo  
 Cairo, Egypt

**Fourth World Conference on Engineering Education**

15–20 October 1995  
 Minneapolis–St Paul, Minnesota, USA  
 Contact: Dr E. R. Krueger  
 William C. Norris Institute  
 245 East Sixth St.  
 St Paul, MN 55101, USA  
 Tel:+1 612–225 1433 Fax: +1 612 225 1241  
 e-mail:wcnrex@epx.cis.umn.ed