

# 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.*

## United Kingdom/Israel

### *Israel critical of Derby University standards*

The reputation of British universities in the global market suffered a blow when Israel's higher education regulatory authority recently accused institutions of compromising standards to make 'as much money as possible'.

**Nehemia Levtzion**, head of planning and funding at the Israeli Higher Education Council, delivered a damning criticism of the quality controls applied by British institutions running extension operations in Israel. Professor Levtzion said that institutions in Israel have already begun plans to abandon their formal partnerships with British universities and that some had been told not to bother applying for a licence to offer degrees in the country. Professor Levtzion said: 'I think that because British universities try to make as much money as possible, they will compromise on standards. Israeli institutions are dropping British patronage and tutelage and would rather become an institution in their own right. Maybe quality will have something to do with it.'

Professor Levtzion spoke out as the Israeli HEC blocked Derby University's application for a licence to award degrees through partner Inter College. The UK's Quality Assurance Agency has reviewed all UK provision in Israel. Its report on

Derby was favourable. The HEC decision followed a THES report last month that Derby lowered entry requirements to fill places.

Derby's application, submitted under tough new laws designed to tighten regulation of overseas providers, was blocked last month when the Israeli HEC inspectors found that it breached 'several' aspects of the law. The HEC council rejected Derby's action plan and put the University on probation. It has until mid-October to prove that it has met 'a long list' of obligations. Its license application will be reconsidered in November.

Professor Levtzion said: 'We suspect that Derby does not enforce the same regulations in Israel as they do at home. There is a long list of obligations they have to meet before we will give them a license.' He said that Derby must ensure that its extension is 'the long arm of the University of Derby', with an identical curriculum, syllabus and exam system.

Derby said it would continue to collaborate with the HEC and looks forward to a close and effective working relationship.

Extension activity in Israel, usually franchised through local private colleges, has exploded in recent years as British universities exploited a largely untapped market. The HEC estimates that 15,000 Israeli students are sitting for degrees awarded through local colleges by overseas universities.

Other British providers—including Manchester University, Heriot-Watt, Coventry University, Sussex and the University of East Anglia—await decisions on their Israeli license applications.

### Germany

#### *Academic staff under pressure*

German academic staff has been a target for criticism for a long time. The president of the German Rectors Conference **Klaus Landfried** elected representative of all German institutions of higher education is now mounting a frontal attack. He demands the sacking of academics who through their laziness neglect their research and teaching obligations. As reported some time ago similar truanancies are observed in Italy. The outcry is particularly important because Prof. Leibfried is a member of the commission of experts reviewing the status of academic 'tenure' positions. The rationale behind this demand is also justified by the increasing number of faculty who use their University positions as a platform for external consultation jobs—even drawing in University assistants who get direct remuneration for extra jobs. Students are increasingly complaining about teaching commitments and quality. More and more private universities offering quality with high fees are gaining popularity. A first step in improving the quality of teaching and research would be the abolition of the civil service status for professors. This, the absolutely safe job situation contributes to the lax work ethic, which is a phenomenon accompanying the birth-to-cradle social and financial security mentality initiated by social democratic ideas of the 1960s in conjunction with the financial prosperity of the time.

#### *State help for inventors*

Inventors who are members of academic institutions in Lower Saxony are getting more state support. A combined program by the departments of economics and of higher education has been initiated to support students and academic staff in the registration of patents and the marketing of products invented at the universities. Funding of DM1 million has been allocated for the establishment of the Hanover Innovations company to support all of Lower Saxony's academic institutions. Many patentable ideas remain in the drawers and are not followed up by academic inventors. A division of profits of one third each is envisaged between the company, the University and the inventors. Initially over 40 patents can be registered with the available funding. Such initiatives are becoming increasingly common in German academic institutions (previously reported from TU Hamburg). Such ventures do support reticent and financially restricted inventors. Moreover, it is hoped that universities would profit financially from these efforts. However, such efforts have a chance of success if the innovation companies can

also supply development funding. Such financial help can break the current restrictions on additional income ventures by academic staff.

### USA

#### *As technology makes inroads in higher education, critics warn of approving virtual University 'experiments'*

The first-ever accreditation of a 'virtual' institution, Jones International University, has become a flashpoint in the debate over accrediting standards for on-line higher education. How could a for-profit University, whose only classrooms are in cyberspace, meet the same measures of quality as traditional bricks-and-mortar institutions?

The Jones decision in March was, to some faculty members, a slap in the face of traditional accrediting standards. And the questions it raises have put accreditors and policy makers in a quandary: should they treat the new, electronic institutions the same way they have treated traditional colleges? Or should they develop new approaches? If so, what should those approaches be? Does anyone understand on-line education well enough to decide?

Right now, accreditation experts say, the questions far outnumber the answers.

'This is going to be a serious issue for the next five years,' said **David A. Longanecker**, former Assistant Secretary for post-secondary education at the US Department of Education, who is now executive director of the Western Interstate Commission on Higher Education. 'It's leading us to a very different concept of quality assurance than we've traditionally had—but I'm not sure what that is.'

Technology-intensive changes in higher education have convinced some administrators and accreditors—Mr Longanecker among them—that new models for college and University accreditation are needed. 'Our concern is that the old forms of accreditation really aren't appropriate for the new delivery mechanisms,' he says.

But critics of the Jones accreditation see it as evidence that accrediting agencies have moved away from reliable standards and are more willing to approve what **Christine Maitland**, higher-education coordinator for the National Education Association, says 'are really experiments' in higher education.

The director of the agency that accredited Jones International, however, thinks otherwise. The current controversy may be short-lived, says **Steven D. Crow**, executive director of the North Central Association of Colleges and Schools. He thinks that the Jones case is exceptional—that other virtual institutions will operate as extensions of traditional colleges or universities, rather than as accredited, degree-granting institutions themselves.

In fact, he says, traditional universities and

for-profit businesses are likely partners in distance-education marriages—especially if they involve companies with large amounts of capital to invest ‘in good curricular design and course work’.

Already, accreditation officials say the sheer number of colleges and universities offering some form of distance education is making their work more challenging, as the programs attract a larger share of students—and of accreditors’ attention. ‘It’s the magnitude that is the issue,’ says **Sandra Elman**, executive director of the Commission on Colleges of the Northwest Association of Schools and Colleges. ‘Distance education has been going on for years, but not to the degree, and not in all kinds of institutions, that it is now.’

Among the regional agencies, North Central is by far ‘the most aggressive and open-minded about distance learning,’ says Michael P. Lambert, executive director of the Distance Education and Training Council, which accredits distance-education programs. ‘I find its attitude refreshing, somewhat different, more entrepreneurial.’ In conducting recent institutional evaluations, including the one for Jones, North Central has relied in part on guidelines for ‘good practices in telecommunicated learning,’ similar to those developed by the Western accrediting agency, says Mr Crow.

The only unusual aspects of the Jones accreditation, he says, were the procedures used to review the curriculum and conduct interviews—many of which the evaluation team held on line. For about two years, members of the team reviewed library resources, administration, and finances—‘the standard stuff,’ he says.

Even so, educators who question the decision to accredit Jones say they suspect that the institution received waivers on some requirements—a suspicion that University officials deny. ‘I can tell you right now, we didn’t,’ says Pamela S. Pease, president of Jones International University, which is based in Englewood, Colo.

## Asia

### *Asian universities rankings are controversial*

It has been nearly 20 years since Cesar Bacani, a senior editor at *Asiaweek* magazine, graduated from the University of the Philippines.

Yet now hardly a working day passes without him thinking of his *alma mater*. ‘I receive many reminders on the subject,’ he says dryly, ‘not all of them very happy-sounding.’

The University of the Philippines is one of the 79 universities to have been ranked—at No. 32, not highly enough, in the view of some of Mr Bacani’s correspondents—in the latest *Asiaweek* annual survey of the ‘best’ higher-education institutions in Asia. Mr Bacani is in charge of the project, which is attracting increased attention—and scrutiny.

As in previous surveys, Japanese universities

lead this year’s rankings of ‘multidisciplinary’ institutions. (The magazine rates science and technology institutes separately.) The strongest gains in 1999 were posted by South Korean institutions, with Seoul National University moving up three notches to third place, and Yonsei University making its first appearance in the top 10. Other institutions in that leading group were in Australia, Hong Kong, Singapore, and Taiwan.

But part of the story of this year’s rankings concerns the universities that opted out of the survey—not only in mainland China, where 19 institutions declined to participate, but also the University of Tokyo, which was ranked No. 1 in each of the two preceding years.

In a letter to the Hong Kong-based magazine, the University of Tokyo’s new president, **Hasumi Shigehiko**, argued that the education and research at his institution ‘cannot be compared with that of other universities . . . Such characteristics are profoundly individual and extremely difficult to quantify.’ His position on the matter, he added, ‘will not waver as long as I am president’.

**Christopher Tremewan**, a pro-vice-chancellor, or vice-president, at the University of Auckland, in New Zealand, says *Asiaweek* is treading a thin line. ‘The magazine has to be careful that the inadequacy of its methodology doesn’t drive more and more universities away from the survey,’ he says.

Like other periodicals that publish similar rankings—including *US News & World Report*, *Macleans* in Canada, and Britain’s *Financial Times*—*Asiaweek* aims to measure the academic excellence of universities by quantifying their achievements. Mr Bacani says the magazine’s role is in ‘objectifying the myths . . . substantiating or debunking the idea that such-and-such a University is the best, simply because that’s what people have always claimed.’

When *Asiaweek* decided to publish a ranking of universities in 1997, the task appeared to be straightforward enough. After all, other periodicals already had done it, and the magazine even had some previous experience of its own—several years earlier, it had published a guide to 34 of Asia’s leading higher-education institutions. While that survey included degree offerings and student fees, it did not attempt to rank the institutions. But the challenge of developing the ranking system proved daunting—especially in such a vast region that accounts for more than half the world’s population, spread out, for the purposes of the survey, across 18 countries and territories. The survey also took in the South Pacific nations of Australia and New Zealand.

Geography, notes Mr Bacani, was only ‘the most obvious’ challenge. ‘In Asia, you also have the cultural matters of saving face, of institutional and national prestige,’ he says. ‘Remember that this was the first time anything like this had been tried in Asia.’ For those and other reasons, he says, ‘when we began working on the first survey, no one took it entirely seriously.’

In 1997, five-page questionnaires were sent to just 78 universities, requesting information on fees, student-teacher ratios, salary levels, and faculty qualifications, and asking officials to evaluate the reputations of other institutions being surveyed. In the subsequent ranking of 50 institutions, no distinction was made between multidisciplinary universities and science and technology institutes, thus opening the magazine to accusations that it was comparing apples with oranges.

This year's survey was based on an expanded eight-page questionnaire, which included new questions on subjects such as Internet access. It was sent to 149 universities, 95 of which submitted complete responses. Universities were judged in five categories: academic reputation, student selectivity, faculty resources, research output, and financial resources. As in the two earlier surveys, Mr Bacani developed the criteria, organised the data, and, working with four research assistants and the *Asiaweek* network of correspondents, compiled the rankings. For the first time, the magazine this year ranked science and technology institutes separate from multidisciplinary universities.

The expanded effort, however, has not satisfied the concerns about the magazine's research. Even officials at the National University of Singapore, which consistently has been ranked among the top six institutions, have found aspects of the methodology wanting. **Hang Chang Chieh**, the University's deputy vice-chancellor, complains that he has 'no idea' how *Asiaweek* could rate his institution 64th in terms of faculty resources after it was in the top 10 in that category just one year ago.

'Universities do not change this quickly, which is why any assessment of this type needs to take a complex approach,' says Mr Hang. He believes the magazine might do better to conduct its surveys and compile its rankings less often, perhaps 'once every five years.'

For some institutions in Australia and New Zealand, another sticking point has been the survey's selectivity criterion, which accounts for a quarter of each institution's overall score. The selectivity score is based in part on the number of first-year students accepted compared with the total number of applicants. In New Zealand, for example, about 25 per cent of all first-time students enrolled at the country's seven national universities are over 21 years old, and by law they are exempt from an entrance examination for general degree programs; the institutions cannot deny them admission. 'Selectivity simply cannot be compared across different jurisdictions,' says Mr. Tremewan, of the University of Auckland.

Among readers, the rankings have only grown in popularity. Last month, in the week following the appearance of this year's rankings in *Asiaweek*, the pages on the magazine's World-Wide-Web site (<http://www.asiaweek.com>) devoted to the survey received a record number of 'hits,' or viewings—

more than 290,000. The annual 'best universities' issue is one of the year's biggest sellers for the magazine, which is published by Time Inc.

Evidence of the survey's attention-getting power can be found in almost any of the countries represented in the listings. Visitors to public relations offices on campuses in Singapore and Malaysia, for example, will typically be offered reprints of the magazine's rankings, complete with the flattering institutional profiles of the top universities. In Indonesia and South Korea, newspaper editorials regularly cite the survey when they seek to celebrate—or to chide—their countries' higher-education standards.

The survey's ubiquity has been made clear to University officials across the Asia-Pacific region. 'It has acquired a very high credibility, not just among academics but also students, who nowadays often come along to our overseas recruitment offices clutching copies of the magazine,' says Mr Fell, of the University of New South Wales.

In the end, though, Mr Bacani believes the most important service his magazine's rankings may be providing is a 'wake-up call' to higher education, and not just in Asia and the Pacific.

*Asiaweek* ranks the region's top universities as follows:

#### *Multidisciplinary institutions*

Tohoku University (Japan)  
 Kyoto University (Japan)  
 Seoul National University (South Korea)  
 University of Hong Kong  
 National Taiwan University  
 National University of Singapore  
 Chinese University of Hong Kong  
 University of New South Wales (Australia)  
 Yonsei University (South Korea)  
 University of Melbourne (Australia)

#### *Science and technology institutions*

Korea Advanced Institute of Science and Technology (South Korea)  
 Pohang University of Science and Technology (South Korea)  
 Tokyo Institute of Technology  
 Indian Institute of Technology, Delhi  
 Indian Institute of Technology, Madras  
 Indian Institute of Technology, Bombay  
 Indian Institute of Technology, Kanpur  
 Nanyang Technological University (Singapore)  
 University of Science and Technology of China  
 National Taiwan University of Science and Technology

### **Hong Kong**

#### *Hong Kong critical of rankings*

Although *Asiaweek* magazine has ranked two of Hong Kong's six universities among the region's very best, these days residents of the former British colony might question that finding. The reason, according to some analysts, is that education at all

levels in what is now a 'Special Administrative Region' of China is experiencing a crisis of confidence.

'Parents have lost confidence in the system, and they will no longer pick a Hong Kong University as the first choice for their children,' said **Kai Ming Cheng**, pro-vice-chancellor, or vice-president, of the University of Hong Kong, at a recent international scholarly meeting. 'Parents now prefer to send their children overseas for higher education, if at all possible.'

Compounding the problem, he said, was a new reluctance on the part of Hong Kong businesses to hire people educated in the territory. 'Our employers have lost confidence in our local graduates. They now prefer graduates of overseas universities, and even of mainland-Chinese universities.'

Mr Cheng made his comments last month at the annual meeting in Toronto of the Comparative and International Education Society. The meeting was sponsored by the Hong Kong Institute of Education and the University of Toronto's Ontario Institute for Studies in Education, and its final session was devoted to Canadian and Hong Kong perspectives on higher education in the next century.

Mr Cheng said the outlook in Hong Kong was not promising because of the loss of faith in the system, for which he had no explanation. 'There is no simple answer,' he said.

'This is definitely not because of the handover,' said M. Cheng, when asked if the return of Hong Kong to Chinese control nearly two years ago had precipitated the crisis in education. 'Why this is happening now, we are not sure, but it's not because of China.'

Many people in Hong Kong had feared a loss of personal freedoms under Chinese rule, but analysts in the territory and elsewhere say China has largely kept its 'hands-off' promise. What had not been anticipated was that the territory's once-robust economy would stumble badly.

The economic downturn has led the University Grants Committee, a local agency that distributes government funds for higher education in Hong Kong, to call on institutions to do more with the resources they have. But economics is not why the territory's people feel education is in decline.

Mr. Cheng said he believed the loss of confidence in the system was caused in part by 'a mismatch between teachers trained in Western traditions and tradition-bound Chinese parents'. The teachers have lost confidence in students, who are not able to cope with the curriculum. Two decades ago, he said, Hong Kong had 'one of the strongest education systems in Asia. Now, others in the region are stronger.'

#### Australia/United Kingdom

*Monash University expands into London*  
King's College London and Monash University in Melbourne have signed an agreement that will give

the largest University in Australia its first base in Britain. It will also give King's access to Monash's Australian and Malaysian campuses. Under the deal, Monash will pay King's £70,000 a year over the next ten years. It will have its own centre located in refurbished offices at King's campus on The Strand, close to Australia House and the Australia Centre. King's College will join Monash's offshore campus in Kuala Lumpur as a major destination for Australia-based students who wish to complete part of their course overseas. King's also plans to arrange for its students to have ready access to Monash courses in Australia and Malaysia.

The agreement will boost the capacity of two strong institutions to recruit students and attract research funding from countries on both sides of the globe and enhance opportunities for academic collaboration.

Monash vice-chancellor **David Robinson** said the new centre at King's would become the focus of the University's activities in the United Kingdom and in Europe. He said the centre would probably open next January and would be the size of a 'small campus' within five years, with up to 3,000 students.

As with the Malaysian campus, Professor Robinson said the London centre would be a key component of the University's strategy to provide teaching, learning and research opportunities for its students and staff around the world. The centre will have its own offices, rooms and teaching facilities, while staff and students will receive preferential access to the college's teaching facilities.

Monash enrolls 45,000 students on seven campuses. Under a newly released strategy for the next 20 years, it plans to establish a global network of campuses and 'strategic alliances' to give it a significant presence in Western and Eastern Europe, Southeast Asia, Southern Africa, and South and North America.

#### Israel

*Israel to pay for arab students' use of college-preparatory program*

Arab students at Israel's public universities will now be able to study for four years for the price of three, under a policy adopted last week by the country's Council of Higher Education. The program is aimed at increasing the number of Arab students at Israeli universities. About 6.5 per cent of all students enrolled in the universities are Arab, although the proportion of Arabs in the overall population is three times that figure.

Because University studies require fluency in Hebrew, and because many of the high schools in Israel's Arab school system are considered to be of poor quality, many Arab students spend a year in a University 'pre-academic program' before beginning undergraduate studies, which generally take three years. Under the new program, such students will not have to pay fees for the extra year.