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The entire content is also available online as an e-book at www.qsshowcase.com.

Contents

Preface

MAIN FEATURES

Pioneering appointment shows Australia means business
Richard Colbeck, Senator, Australia

Is Singapore more than a regional education hub?
Bertil Andersson, President, Nanyang Technological University, Singapore

Preparing for a new world order in higher education
Francisco Marmolejo, Tertiary Education Coordinator, The World Bank

Painting of a Dutch master
Sibrand Poppema, President, University of Groningen, Netherlands

The educational infrastructure of civil engineering – in need of underpinning?
David Nethercot, President, International Association for Bridge and Structural Engineering, United Kingdom

Latin America must pursue an international agenda
Jeanette Vélez, Chancellor, University of Rosario, Colombia

Can an academic network go where politicians fear to tread?
Christopher Tremewan, 4th Secretary General, Association of Pacific Rim Universities, Singapore

Beyond the nuclear option
Mikhail Nikolaevich Strikhanov, Rector, National Research Nuclear University MEPhI, Russia

Good times can soon return for Indian higher education
W Selvamurthy, President, Amity Science, Technology and Innovation Foundation, Amity University, India

A new start for higher education after 35 years of war
Abdul-Qayum Mohmand, Chancellor, Afghan Institute of Higher Education, Afghanistan

5 Saudi women's university lays foundations for the future of its gender 40
Haifa Jamal Al-Lail, President, Effat University, Saudi Arabia

9 A model of applied and vocational education tailored to the unique 44 demography of the United Arab Emirates
Abdullah Al Shamsi, Vice Chancellor, Higher Colleges of Technology, United Arab Emirates

12 Have Arab universities surrendered to utilitarianism? 47
Khalil Hindi, Former President, Birzeit University, Palestine

17 Treading the fine line between academic freedom and security 49
Mohammed Farouk, Founding Vice Chancellor, Federal University, Kashere, Nigeria

19 Cape Town's Afropolitan mission 51
Max Price, Vice Chancellor, University of Cape Town, South Africa

SPECIAL FEATURES

26 Rankings as a catalyst 55
Kevin Downing, Director, Knowledge Enterprise and Analysis, City University of Hong Kong, Hong Kong

29 The arts, disruption, marginality:
education for the global creative economy 59
James S Moy, Dean of College of The Arts, University of South Florida, Florida

32 QS Asia's 2015 – a calendar full of cracking conferences! 63
Tony Martin, Former Vice President, QS Quacquarelli Symonds

34 The globally engaged civic university 69
Grant Guilford, Vice Chancellor, Victoria University of Wellington, New Zealand

36 It is time for bold leadership on China linkages 71
Laurie Pearcey, Director of China Strategy and Development, University of New South Wales, Australia

ASIA COUNTRY FEATURES

Brunei

Higher education in Brunei: an overview

Zulkarnain Hanafi, Minister of Health, Brunei Darussalam

China

Integrating with high-quality educational resources, building a first-class Sino-foreign cooperative university

Youmin Xi, Executive President, Xi'an Jiaotong-Liverpool University

Hong Kong

The development and advancement of higher education in Hong Kong

Peter Mathieson, President, The University of Hong Kong

Japan

Toward the three-type categorization of the Japanese national universities

Mitsuo Ochi, President, Hiroshima University

Kazakhstan

Globalization of Kazakh medical education

Duisenova Tamara, Minister of Health and Social Development, Republic of Kazakhstan

Malaysia

TVET in Malaysia: roles of Malaysian technical universities

Kamarudin Hussin, Vice Chancellor, Universiti Malaysia Perlis

MIDDLE EAST COUNTRY FEATURES

Lebanon

Internationalizing higher education for a better tomorrow

Hady J Mahfouz, President, Holy Spirit University of Kaslik

Palestine

Modern trends invade higher education institutions in Palestine

Maher Natsheh, Acting President, An-Najah National University

176

98

LATIN AMERICA COUNTRY FEATURES

Colombia

Towards excellence in higher education in Colombia: a brief history of an ongoing revolution

Pablo Navas, Rector, Universidad de los Andes

182

102

Mexico

Challenges of higher education in Mexico

Itzcóatl Tonatiuh Bravo Padilla, General Rector, University of Guadalajara

186

106

AFRICA COUNTRY FEATURES

Egypt

Higher education in Egypt: history, development and the future outlook

Hussein Mohamed Eissa, President, Ain Shams University

192

119

Rwanda

Transforming higher education in Rwanda

Verdiana Grace Masanja, Director of Research and Postgraduate Studies, University of Rwanda

196

123

Nelson Ijumba, Deputy Vice Chancellor (Academic Affairs and Research), University of Rwanda

130

172

Preface

Higher education in the non-Western world is making stupendous progress; and this growth is especially evident in Asia. QS Showcase reflects this progress every year for the world, which is recognized by academia, governmental departments and business professionals alike. First published in 2010, QS Showcase 2016 continues to document global higher education developments.

What fascinated the world in academia in 2015 was the stellar performance of two Singapore universities—National University of Singapore and Nanyang Technological University—in the QS World University Rankings 2015. Ranked 12th and 13th in the world, respectively, these two Asian universities have indeed caught up with their Western counterparts. With a total of 19 universities among the world's top 100, Asian higher education has exponentially grown in prestige and quality by leaps and bounds, in comparison with only a decade ago.

In this edition of QS Showcase, we feature articles on higher education topics that are of current interest and future relevance. The book comprises three equally informative sections: the Main Features are based on interviews with prominent thought leaders; the Special Features are broadly profound higher education views written by international luminaries; and the Country Features section sheds light on the current developments and future trends in higher education in Asia, the Middle East, Latin America, and Africa.

In this edition:

- Dr Kevin Downing, a well-known academic with a reputation for witty remarks, describes university rankings as a catalyst and reveals the often neglected “partnership” between the public and private sectors in the area;
- Francisco Marmolejo, tertiary education coordinator at The World Bank, foresees a time when the majority of students are in developing countries and that governments and universities must be ready to adapt;
- Christopher Tremewan, 4th secretary general at the Association of Pacific Rim Universities, tells of his ambitions for the association, which include research in key areas for the region as well as a new role bringing governments together;
- The recent global trajectory of focusing on STEM both for education and research—at the expense of de-funding non-STEM

functions—has dismayed James S Moy, dean of College of The Arts at the University of South Florida; and he puts forward his case why this is not conducive to the global creative economy;

- Duisenova Tamara, minister of health and social development of the Republic of Kazakhstan, gives an account of the globalization of Kazakh medical education;
- Two African thought leaders at the University of Rwanda—Verdiana Grace Masanja, director of research and postgraduate studies, and Nelson Ijumba, deputy vice chancellor (academic affairs and research)—jointly elaborate on Rwandan higher education's past, present and future.

Top academics as well as senior government and non-government officials from 26 countries (11 in Asia and Oceania, 3 in Europe, 5 in the Middle East, 3 in the Americas, and 4 in Africa) have contributed to this year's QS Showcase publication—a truly global outlook of higher education in 2015.

While QS Showcase aims to present documentary evidence of the various regions' continuing rise in higher education, it will also offer universities in these regions an exclusive top-level media platform to project themselves to academics, government bodies and business communities across the world.

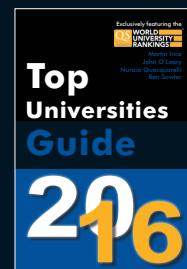
Copies of this prestigious publication are distributed to presidents/provosts of top 500 universities as featured in the latest QS World University Rankings, presidents/provosts of top 200 universities as featured in the latest QS Asian University Rankings, heads of state of G20 countries, presidents of the Association of Southeast Asian Nations (ASEAN), 250 major diplomatic offices and embassies worldwide, and ministers of education in Asia, Middle East, Africa and Latin America. The entire content of this book is also freely accessible online as an e-book and a mobile app.

QS Showcase is published by QS Asia, the regional subsidiary of QS Quacquarelli Symonds, producer of the world's widely respected QS World University Rankings and QS University Rankings: Asia. It is our pleasure to showcase Asian, Latin American, Middle Eastern and African higher education achievements and developments to the world. We hope that QS Showcase 2016 will inspire more universities in these regions to rise and shine internationally.

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MAIN FEATURES

Pioneering appointment shows Australia means business

Richard Colbeck is putting the final touches to a national strategy designed to boost student mobility both into and out of the country. John O'Leary hears that he has overcome initial doubts at first about the unique portfolio he holds in government.



Senator Richard Colbeck

Australia's first minister for international education, Senator Richard Colbeck, is aiming for a change of culture among the country's universities to make them even more successful on the global stage.

Since Australia is already the third most popular destination for international students, having recruited record numbers in the last two years, Senator Colbeck is treading warily. But he would like to foster greater collaboration between institutions that can be fiercely competitive.

Speaking at the QS-APPLE conference in Melbourne, Senator Colbeck said that the country's universities and vocational providers should not be engaged in "some sort of competitive war". He added: "Collaboration is where the opportunities exist, especially where we have particular skillsets to market, we don't need to be in all-out war. There is an opportunity for the Australian brand, which is recognized as high quality."

Senator Colbeck saw the advantages of a collaborative approach while leading a recent mission to Indonesia. "Rather than just be about what services we can offer and how many students we can attract, what really struck me was the opportunity to develop partnerships with Australian institutions, secondary or tertiary, and to partner with other countries." The scale of opportunities in one of the world's most populous countries, as well as the chance to deliver educational services further into the Pacific region, demonstrated the need for institutions to work together.

Appointed only in September 2015, Senator Colbeck is responsible for producing Australia's first international education strategy, as well as holding the economically important tourism brief. One of its aims will be to end the "silo effect" that he acknowledges has existed in government, as well as between institutions. "There are so many portfolios that impact on the education space," he said. "My job is to make sure that it all gets pulled together and an implementation strategy is put in place to 2025."

Senator Colbeck believes that the creation of an international education brief within government has already made an important point. "When the Prime Minister rang me and said he would like me to be minister for tourism

and international education, I had to do a double take because I wasn't sure about the connections," he says. "But I believe it's a very good thing. Now that I've had enough conversations, the connections have become quite clear, particularly in terms of the number of people who travel based on family members in education."

"The fact that we do have a Minister for International Education indicates that we see it as an important feature for us, but also that we see ourselves playing an important part in the region. We make a significant offering in Australia and we are considering how we might use it to assist in the development of our region. For small Pacific nations, the opportunities and demand for education services are quite significant."

Education is Australia's third-largest export, at AUD 18 billion, still growing at a time when some sectors of the economy are struggling. "In circumstances where global growth is slow, it is obvious that an economy is going to focus on those areas that are going to help the most," the Minister says. "In Australia, overall growth is 2.5%, while for international education the figure is 6.1%."

The contribution comes from schools and vocational providers, as well as universities and colleges. Senator Colbeck says: "One of the things we are talking about within government is how we ensure that it is one education system that provides a strong offering and service from initial engagement to student support to skills development. The other part of the conversation is about employability—one focus in a broader approach. It is an integral part of the overall education system to ensure that balance is maintained." The draft national strategy has been under discussion since last April and Senator Colbeck is expected to publish the final conclusions in the next month. It was commissioned because although one of the top three destinations for international students at all levels of education, Australia suffered seven years of declining numbers up to 2014. The trend has been put down to a number of factors, including the strength of the Australian dollar during much of that period and the legacy of well-publicized attacks on Indian students more than a decade ago.

International education supports some 130,000 jobs across Australia. In the first year of recovery, when its economic value was estimated to have grown by AUD 1 billion, record enrollments came particularly in vocational education and training, but there were increases, too, at school level and in English language courses. Civil servants expect there to be another record in 2015, with higher education performing strongly.

However, the government is anxious to promote student mobility from Australia as well. The New Colombo Plan is designed to cement partnerships in the Indo-Pacific region by enabling more students to travel to study or work abroad.

The Plan, launched in 2014, has already supported students to study and undertake internships in 32 host locations across the region from India in the west to Mongolia in the north, and to the Cook Islands in the east. It will continue to grow in 2016 to support an estimated 5450 mobility students and around 100 scholars to live, study and undertake work placements in the region. This will bring the number of students funded to more than 10,000 in the first three years of the program.

The draft strategy identifies nine measures of success in its ambition to raise Australia's profile as a world leader in international education and improve the "global connectedness" of Australians. They include increasing the number of research partnerships and publications, partly through growing support for student and researcher mobility, providing more scholarships and boosting alumni networks. The department also hopes to see more students studying a foreign language and more going abroad to study.

The draft stresses that international students are valued for more than just the economic benefits that they bring. "Australia's international education sector not only generates significant economic benefits but enriches our social, cultural and intellectual life. It plays an important role in internationalizing our campuses, classrooms, workplaces and communities. Relationships developed through international education help maintain international trade, investment and goodwill. International education paves the way for Australian students, researchers and professionals to develop their capabilities for an increasingly globalized workplace."

The development of Northern Australia is one priority for the government, which would like to promote the concept of the "tropical economy". More than 50% of the world's population is forecast to live in the tropics by 2050 and Northern Australian institutions are seen as the ones that can meet the needs of tropical markets by providing expertise and partnering in areas such as mining, agriculture, fisheries management, building design, marine science, disaster management and conservation.

Ministers expect competition for international students to intensify further, with the United States, already the world's leading destination for globally mobile students, poised to become a more active recruiter. College enrollments by Americans are expected to decline up to 2022, encouraging more institutions to seek international students. English-speaking competitor countries—the United Kingdom, Canada and New Zealand—are also expected to step up their efforts. China, Japan and Korea have set ambitious targets while Singapore and Malaysia, as well as countries in the Middle East and in Europe, are expanding the number of courses they provide in English.



The draft strategy acknowledges that Australia's performance in international rankings will be an important measure of universities' success and also a factor in attracting more students. But it adds: "Our performance in providing world-class education will also be measured by the quality of the graduates and skilled professionals our system creates. Producing work-ready graduates who are equipped with the tools to engage as global citizens should be a key measure of the quality of Australian education. Today's students often need to combine a qualification with relevant work experience to gain a competitive edge in the employment market."

The availability of student visas, as well as providing work experience and subsequent employment opportunities, will therefore be important elements of any new policy at a time when competitors such as the UK are tightening up on both. The government expects to maintain "competitive visa settings and strong consumer protections", as well as promoting an attractive student experience.

One area of development will be the promotion of greater partnership between education and business. Australia has one of the lowest levels of collaboration on innovation between the private sector and higher education and public research institutions in the OECD. The government is promising new incentives to expand links, especially in the early stages of research.

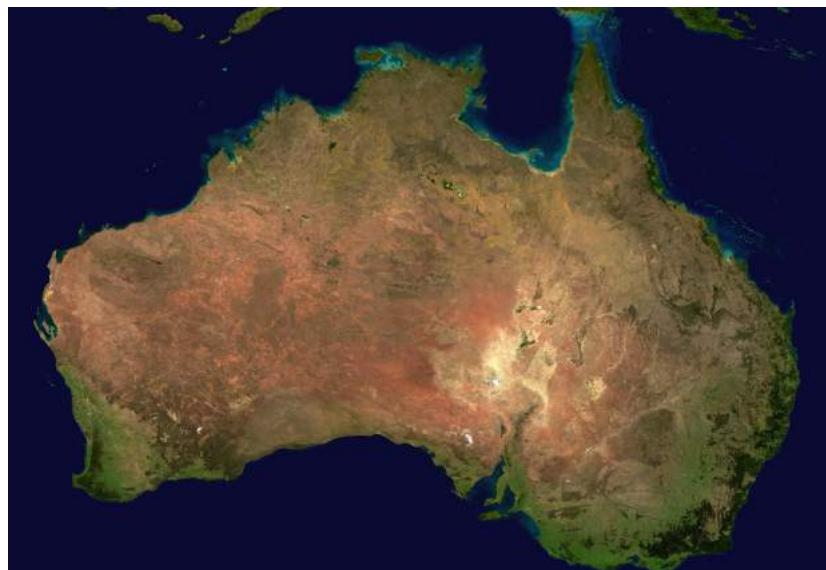
The new policy will focus particularly in relations in the Asia-Pacific region, which accounts for 80% of Australia's international student enrollments. But there are designs on greater engagement with Latin America and the Middle East. This will involve transnational education and increased government-to-government cooperation to attract students on scholarships to study in Australia.

Greater proficiency in foreign languages would help, ministers believe. The proportion of Australians studying a foreign language in their final years of schooling dropped from 40% in the 1960s to around 11% in 2012. The strategy says: "To fully comprehend our place in the world, Australia's workforce and society needs to be competent in a range of languages. Acquiring a foreign language is a foundation skill for taking part in our global economy. Exposure to language learning in formative years is important to encourage this learning in later education."

It is an ambitious agenda, but Senator Colbeck is warming to his task. He knows that the establishment of an international brief in government has raised expectations in an already successful field and he appears confident of fulfilling them.

Richard Colbeck was appointed as Australia's first-ever minister for international education and tourism in September 2015. He became a senator in 2001 and held various roles in John Howard's government, including parliamentary secretary for agriculture, fisheries and forestry and the parliamentary secretary for finance. In 2013, following the Coalition's victory in the federal election, Senator Colbeck was appointed parliamentary secretary to the minister for agriculture. The return of Malcolm Turnbull as prime minister saw him become minister for tourism and international education, as well as minister assisting the minister for trade and investment. Senator Colbeck describes himself as "a proud Tasmanian", having lived on the island for most of his life.

Married with three children, he worked in the construction industry for more than two decades, starting work as an apprentice and going on to operate his own businesses. He says he became motivated to enter politics full-time following substantial cuts to education funding in the early 1990s and the withdrawal of building trades training from the North West of Tasmania.



Is Singapore more than a regional education hub?

Nanyang Technological University has climbed to an impressive height in the global rankings table. Prof Bertil Andersson, its president, gives Cyrus Tabatabaei, QS Showcase editor, an insight into the outlook for his university and the rest of the country.



Prof Bertil Andersson

The relevance of a degree in a changing economic and employment environment is coming under scrutiny. In light of the thriving economy of Singapore, what do you make of the current university landscape in the country? Do you think the existing number of universities meet the increasing demand for higher education?

In terms of volume, about 40% of each cohort in Singapore is going to university and that is quite a good international figure in today's world. Looking at the education eco system here, Singapore has two elite universities; one is totally comprehensive,

which is National University of Singapore (NUS). The other is Nanyang Technological University (NTU Singapore) which is still dominated by engineering and STEM, including medicine, comprising 80–85% of the university's offerings; then we have Singapore Management University (SMU), which specializes in social sciences and management. Singapore University of Technology and Design (SUTD) is another engineering institution, but a very special one, focusing on design and broader aspects; and finally Singapore Institute of Technology (SIT) with a primary focus on education and not much research. I think it is quite a good system and I don't see anything missing really. Also, I have seen a growing admiration for Singapore around the world, especially after the release of the global rankings in October. The sentiment prevalent in the international press was, "Look, our national universities are going down but Singapore's are going up. This little red dot, this little country... how can they have two universities that are so highly ranked?" Students are starting to see that Singapore has one of the most recognized university systems in the world. Schools have a very good reputation as well, meaning we have very good students to start with.

Some argue that degrees may no longer be a right exclusively reserved for universities and that a set of "stackable" courses from various providers in a coherent manner can be presented to a university, or even an accrediting body, for a degree or for "top-ups" to a new degree. What is your take on this?

While I don't think this is a major concern in Europe or Asia, the issue may be generating some debate within the United States or more selectively

among the business schools circle, but not amongst academia in its totality. I have never heard of any individual setting up a private, fully-functional physics or chemistry lab. I also don't know of someone from the humanities field offering this set of "stackable" courses. It is also worth noting that in large parts of Europe, northern Europe in particular, university education is free. So there is little incentive for private education providers to invest in this kind of a system. In Singapore the university sector is well-funded, and is expected to be even better-funded in the years to come. And one should note and respect the fact that besides the church, university is the oldest establishment in the world, dating back to Bologna University in 1088.

However, there are caveats associated with this. Universities cannot be complacent if they want to stay relevant. Of course, they have to modernize and adapt to more ICT-based education; because young people learn in different ways. Certainly, our research must also be relevant.

There is also another flaw in the way universities are defined within the private commercial model. A university is not a JC+; it is something more. The classical universities are built on the German model that is called the Humboldtian model, where research and education go hand in hand and it is mostly American universities who have adopted this model—MIT, Stanford etc. A teacher who is also a famous researcher gives students something new to think about and learn; students get fresh food not tin food; that's very important to stay competitive.

How do you evaluate the integration of industry and higher education in Singapore? Can universities alone completely prepare a graduate for the job market? How effectively has NTU been addressing the graduate employability gap?

Let me start from the latter part of the question. NTU is one of the world's top universities for industrial collaboration. We started many industrial partnerships on a small scale. After a year, almost all our industry partners are interested in expanding the collaboration; and to me that means our research and graduate education is highly relevant for industry. Our curriculum is very focused on grooming well-rounded young professionals who have a good command of their disciplines and are also equipped with soft skills needed in the real world. We have a strong network of industry leaders who offer internship opportunities for our students in Singapore and overseas. This is supplemented with adjunct lecturers from industry professionals.

Moreover, one needs to understand that business, industry and university are slightly different from one another; businesses deal with today's problems because they have to; they have to make money and they have to make a profit. Universities, on the other hand, can take a longer perspective in their education; although maybe I am old-fashioned or philosophical rather than pragmatic. So yes, a university is not a closed shop; it must stay relevant. For instance, medical schools take their cue from clinicians and doctors. Similarly, engineering schools always listen to industrialists: If we had a director from Rolls Royce come in here to give a lecture, all students would attend his lecture. In science, maybe it is more academic in a sense as well as in humanities.

It is remarkable that, in just two years, NTU jumped 28 spots in the fiercely competitive university league rankings in the latest QS World University Rankings 2015/16. What were the main changes that propelled NTU to become the 13th best university in the world? Are there further actions that you plan to implement to sustain the high ranking or to even advance higher?

I think NTU has been working in a systematic way in the last ten years by introducing what I call "best international practice". But I believe the most important thing in university is the people. The second most important thing is also the people and maybe the third most important thing is our people, and we have been very meticulous with our human resources. MIT is not famous for its bricks... it is famous for its brains.

Back in 2008, we went through a very strict tenure review process, which gave us the opportunity to raise the bar and recruit very strategically on a global scale. We have recruited fellows of the Royal Society in London, members of the National Academy of Sciences in Washington and top professors from top universities in the United States like Caltech. We have recruited a lot of young, upcoming scientists. These are young people who are hungry and excellent and have been with the likes of MIT, Stanford or Oxford. Once they finish their post-doctoral studies, they come to NTU because I think NTU has a buzz around it as does Singapore. So that has been one important factor—our recruitment policy. In addition, we raised the bar for professors because if it is easy to get promoted, you don't belong to the top in academia. Of course we also benefit from being in Singapore and we have had good funding, which has actually been quite competitive so we have had to really run for our money.

We have also put a lot of emphasis on education and learning. We have moved away from the traditional classroom lectures towards group-based, self-directed learning, as well as ICT-based learning. We are quite well-positioned in the MOOCs, for example. Our approach is more top-down and well coordinated as compared to other universities. The difficulty facing European universities I think is there are too many stakeholders. So I think, particularly when a university goes through a period of change, there must be someone at the steering wheel.



The Hive – NTU's latest architectural icon that is the centerpiece of NTU's new flipped classroom learning. Photo credit Hufton and Crow

In addition, we started to put more emphasis on research. Just 15 years ago research was not a priority for NTU and today when it comes to normalized citation impact we are number one in Asia if you look at Thomson Reuters. And I always joke that number one in Asia also means number one in Singapore. So if you compare our citations with ETH in Zurich, they are almost the same.

What can we do more? In terms of research it is challenging; of course in the medical field it is possible to do more and that will add to it. Another aspect is industrial research and that is why we have partnerships with MNCs such as Rolls Royce, BMW as well as national companies like ST Electronics etc. We also have the ambition to be number one in Asia when it comes to education.

As the world's top young university, what do you think are the biggest challenges that young universities face? What are their biggest advantages? How does being young help or hinder attracting top students and highest caliber faculty?

The main problem I faced when I first came to NTU was that it was young, not very well known, and completely overshadowed by the more established NUS. I remember when we had open house here back in 2007. One father

questioned me on NTU's position in the QS Rankings and said: "why should my daughter go to NTU when it is ranked so low?"

So it was absolutely an issue, I agree. I remember when I was interviewed by Straits Times about how I could improve the rankings I replied: "I am going to make it old!" And I think we managed to rise in the rankings by pushing the research and recruiting top people. We were able, maybe against all odds, to "swing it", and now you see more and more top students from Singapore come to NTU. So we are the only university that actually increases its market share of students. In fact, in 2011–12, there was a tipping point when we managed to convince students that NTU is actually super, and to be honest rankings played a big role in that. I believe rankings are the best friends of ambitious and young universities. For instance, Oxford has nothing to gain from rankings and I don't know what Oxford would do to lose their sort of reputation and legacy. Therefore, although many university professors criticize rankings, I am for it; my argument is "what did we have before rankings?" Legacy; reputation; and how transparent is that?

How do you see the role of Singapore in ASEAN higher education? What are the challenges? What has been done on the part of Singapore higher education to improve the higher education of this populous region of the world? What may the future university landscape be like for Singapore; do you think Singapore will become the higher education hub in the ASEAN? What are the prospects of being recognized as a top student destination globally?

I think Singapore would become a little bit like UK or US—boasting top academic presence in the neighbourhood and a big attraction for students in the other countries, for instance Indonesia, Malaysia etc. At the same time, undergraduate students are mainly Singaporeans; but on the graduate level there will be a lot of students from the ASEAN countries coming here as not so many Singaporeans want to do postgraduate studies. So Singapore will be, or already is, an educational hub.

But I would like to go further. I can see students in Sweden or in Europe beginning to look at Singapore as an education hub. Students in China and India recognize this although India is still very US-focused. So I would say

that it is already happening. Singapore is not only a regional ASEAN super education hub, it is also starting to come on the world scene. Yes, of course the global hubs are still US and UK and maybe Switzerland as well, but Singapore is joining that league even as we speak.

We can get students from everywhere basically. The factors taking the country towards this goal are the rise in rankings, education in English, high living and safety standards, the multiculturalism and the multi-religiousness of Singapore. So there is a lot that speaks for Singapore being the global education hub. For instance, why isn't Sweden a global hub? Because they are too Swedish (I even wrote an article about that); German universities are too German. So the most international one in Europe would be UK, of course they have the language factor, or Switzerland. Even the US is not that international; the problem with the United States is that young people do not want to go out of the United States.

In conclusion, I would like to stress that we are going to continue to work hard and maintain the transparency in NTU—we have no secrets in our way of working. We are very determined and we try to apply best international practices, good education and good research and combine them; and also to be very interdisciplinary; and relevant.

Since becoming president of NTU Singapore in 2011, Professor Bertil Andersson has led the university to global distinction. NTU is ranked 13th globally and is placed first among the world's young universities in the last two years. It also leads the top Asian universities in normalized citation impact. A prominent plant biochemist and author of over 300 papers in photosynthesis research, Professor Andersson was previously chief executive of the European Science Foundation in France, Rector of Linköping University in Sweden, as well as chairman of the Nobel Committee for Chemistry and a trustee of the Nobel Foundation. A Fellow of Imperial College London, Professor Andersson was instrumental in Imperial College London coming to Singapore to jointly establish a medical school with NTU. He has received more than 13 honorary doctorates and the Austrian Wilhelm Exner Medal. He serves on the boards of a number of international foundations, learned societies and public agencies.

NTU – Mega leap to world's No. 13

A QS Showcase profile of Prof Bertil Andersson, president of Nanyang Technological University



"Our rapid rise is a tribute to the quality of our faculty, staff and students and shows that being a young university is not a hindrance to making an impact on a global scale."

Professor Bertil Andersson

President

Prof Bertil Andersson, president of Nanyang Technological University (NTU Singapore), has been the driving force behind the University's rapid rise.

NTU Singapore is today number 13 in the world, first among the world's young elite universities, as well as the top Asian university in normalized citation impact.

Professor Andersson, who has a longstanding association with the Nobel Foundation, is used to leading change within complex global environments, having been the rector of Linköping University in Sweden and chief executive of the European Science Foundation in France. As the man at the helm of the European Science Foundation, Prof Andersson consolidated research efforts across 30 European countries.

A Fellow of Imperial College London, he has been the key driver of Singapore's new medical school jointly established by NTU and Imperial College London. The Lee Kong Chian School of Medicine, which opened in 2013, had already received philanthropic support of SGD 400 million at its inception.

A world-renowned plant biochemist from Sweden, Professor Andersson is the author of

over 300 papers in photosynthesis research and winner of the prestigious Wilhelm Exner Medal. Bringing this appetite for excellence to NTU first as the provost and now as the president, he drove the growth of high-impact science and engineering in education and research at NTU. In domains such as sustainability, healthcare, new media and innovation, he has spearheaded institutional changes that have led to bold new programs as well as increased funding support.

Faculty development has been boosted with the university's flagship Nanyang Assistant Professorship attracting a new generation of promising educators and researchers. This is today one of the most rigorous young scientist schemes in the world. Prof Bertil Andersson's focus on talent recruitment has also resulted in a number of academic "superstars" joining NTU. Among these are leading microbiologist Prof Staffan Kjelleberg, a world expert in genomics, Prof Stephan Schuster, renowned structural biologist Prof Daniela Rhodes FRS and global immunology expert Prof Philip Ingham FRS.

In the international arena, Professor Andersson has enhanced a vital engagement with a host of top European institutions and companies, laying the groundwork for future collaborations. NTU has forged over 400 partnerships with industry and academic leaders such as BMW, Rolls-Royce,

Lockheed Martin and University of California, Berkeley.

By fostering dialogue among colleges and schools, he encourages interdisciplinarity on campus, necessary to address urgent challenges that will require expertise on many fronts. Under an ambitious campus master plan the university landscape and infrastructure is being transformed to foster greater interaction between faculty and students of different disciplines to come together to create new knowledge.

Professor Andersson was educated at Umeå and Lund Universities in Sweden, starting his research career at Lund University, after which he became a professor of biochemistry at Stockholm University and subsequently dean of the Faculty of Chemical Sciences at Stockholm University.

He serves on numerous international boards and has received more than 13 honorary doctorates from universities that include University of Edinburgh, University of New South Wales, Hebrew University of Jerusalem, Tianjin University and Hanyang University.

NTU SINGAPORE

charges ahead to no.

13 globally

Nanyang Technological University (NTU Singapore) is a young and research-intensive university. It is ranked No. 13 in the world by Quacquarelli Symonds (QS) and is also named the World's Fastest-rising Young University by Times Higher Education (THE). Helmed by Professor Bertil Andersson, winner of the Wilhelm Exner Medal, an honour bestowed on the world's best scientists, NTU is a melting pot of international award-

winning scientists, young talents and eminent global partners such as BMW and Rolls-Royce. It is No. 1 among top Asian universities in terms of normalised research citation impact (Thomson Reuters InCites 2014). With its state-of-the-art facilities, NTU has strengths in interdisciplinary cutting-edge research that improves lives and shapes the future. NTU also has a joint medical school with Imperial College London.



QS Top 50 Under 50
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QS World University
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QS Asia University
Rankings 2015



Preparing for a new world order in higher education

Francisco Marmolejo foresees a time when the majority of students are in developing countries. The World Bank's most senior official in tertiary education tells John O'Leary that governments and universities must be ready to adapt.



Dr Francisco Marmolejo

Francisco Marmolejo is an evangelist for international education, but he is also a hard-headed pragmatist. As a leading figure at the World Bank, he argues for the benefits of an international dimension to higher education even in low-income countries, but he is clear about what that should entail.

Dr Marmolejo, who has been the Bank's Tertiary Education Coordinator and Lead Tertiary Education Specialist since 2012, is outspoken about some of the abuses he sees and does not pretend that all students can ever expect an international experience.

However, he remains an enthusiastic advocate of further investment in higher education as the most reliable engine of future economic and social development.

The Bank did not always take this view, for many years championing investment in primary and secondary education at the expense of universities. Now Dr Marmolejo is unequivocal about the benefits of higher education in all types of economy.

"Higher education is becoming a central component of development in many countries," he says. "Private returns are higher than ever and more than from any other level of education. The returns are slightly lower in the MENA (Middle East and North Africa) region, but in the rest of the world the average is at least 15%. That changes the perception of the value of higher education, especially in emerging economies, where there may also be dramatic population growth."

Indeed, he foresees the developing world overtaking developed nations in terms of student numbers. Declining populations are already leading to the closure of universities in parts of Asia and Eastern Europe, while in other countries the demand for higher education is soaring. Students are also increasingly mobile, with the numbers moving to overseas universities expected to double to 7 million by 2020.

"Internationalization is still relatively parochial," Dr Marmolejo says, remarking on the rise of intra-regional mobility that has been a feature of recent expansion. "We believe it is becoming more and more important for governments and higher education institutions. Yet when we speak with

some governments, we see that internationalization is not as central as we would believe it should be.

"For many policy-makers, the main priorities in higher education are about financing and increasing access, making it equitable. Internationalization is at a low level because there is no sense of urgency about it and there is a lot of misunderstanding about what internationalization is—some think it is just about the exchange of students and signing agreements. Actually, the degree of international activity is in inverse proportion to the number of MoUs signed."

Indeed, in many poorer countries the value of universities is yet to be fully recognized. "There is a clear difference in developed countries—if you are well off, you will have access to higher education," Dr Marmolejo says. "But for many others the priority is to break the cycle of marginalization and poverty. The agendas for improvement in general levels of education are very strong but within that, higher education is seen as elitist. Higher education must make its case."

Universities are constantly in the news, but not always for the right reasons. "This is a challenge to the old view of universities as perfect institutions and the wider community is now skeptical about them," he says. "It is very important to have this wake-up call because at the end of the day we cannot overcome any of these attitudes with just words and not evidence. My concern is that too many higher education institutions are disconnected from their stakeholders."

The most serious gulf exists between employers and academics, partly because the labor market is demanding different skills to those provided by higher education. In Dr Marmolejo's view, the current environment makes planning for change essential. Research is sometimes not relevant, for example. "We have to consider whether things happen in universities because of, or in spite of, planning. There has to be greater convergence with societal and economic needs."

Higher education must take account of the broader context in which it operates: for example, the move to an urban world in which 75% of people live in cities by 2050, or demographic changes, which see Japan moving towards a population in which a majority are over 65. Yet nearly half of the population is under 20 in the MENA region. This will bring a demographic bonus for the MENA region, for example, but it will be short-lived—perhaps 20–25 years before the region follows trends in the developed world and

populations start to shrink. "That is the window for higher education in the region to make a difference."

The transition to the new world order in which most students are in developing countries may not be smooth, however. "Some countries are shifting their immigration policy to attract talent, and that has a significant impact on the sending countries," he says. "Developed countries, as they implement policies that they might see as good ideas, should be conscious of the consequences in the countries that are affected. They should develop partnerships with institutions in the sending countries so that brain circulation becomes a reality. Otherwise, there will be big tensions."

In some countries—he cites the United States and the United Kingdom as examples—policies relating to higher education keep shifting and there is a danger that international students will be seen as no more than a way of compensating for funding deficits. This will continue to distort the behavior of higher education institutions and governments.

"Institutions are happy when they have many who want to come and are willing to pay," says Dr Marmolejo. "But the question is what are institutions doing to really make sure that their experience is central to the life of the institution and not just marginal? The ultimate aim is for the international label to disappear because it is so central to the university's activities."

The alternative is the risk of a "bubble effect" in which international students keep themselves to themselves, missing out on many of the advantages of studying abroad.

Dr Marmolejo says: "We need more and better education, but of what type? The future is what we build today and it cannot be on the basis of guesswork."

He believes that one important element of future planning should be to think about tertiary education in a more comprehensive way. This, he believes, would benefit universities as well as other institutions—not in terms of rankings, but in providing a more rounded offer for all students. "I do think it would be a good thing," he says. "Some competition is a waste of resources and the idea that internationalization is just about research does a big disservice to students and societies."

That is not to underplay the value of universities, however. Dr Marmolejo acknowledges that there are strong socio-cultural, as well as economic, benefits from higher education, which he describes as "the last opportunity to build tolerance and acceptance of diversity."

Indeed, much more is now expected of universities, which are no longer simply places for teaching, learning and research. "Institutions are being asked to do things that in the past were unthinkable, like being responsible for the environment or to be the authority to provide legitimacy for the election process," he says.

In the future, they will also be affected by advances in technology. Dr Marmolejo says: "There are now more mobile devices than people, although many still do not have access to them. Students are different now—they are all digitally native and know more than their teachers or parents about this world. Will that encourage more MOOCs (massive open online courses)?"

Weighing up these multiple pressures has yielded three priorities: quality assurance and governance, graduate employability and financing. The Bank has been helping government to achieve equitable access to higher education and to encourage more adequate pathways from previous levels of education and within higher education. It is also concerned about the relevance of higher education, the regulatory framework and benchmarking systems. Relevance covers employability and the capacity to create jobs, as well as relevance to the local community and society more broadly, including through research and universities' third mission.

Internationalization is an important part of the Bank's agenda, but Dr Marmolejo says universities must also allow for the fact that many of their students will not be able to take advantage of overseas opportunities. He told a recent conference: "There are many reasons why we should think beyond mobility—190 million reasons why. The 190 million are the number of students in the world in tertiary education that, like it or not, won't benefit from the opportunity to go abroad and to experience physical mobility."

Nevertheless, governments should recognize that spending on higher education—and internationalization—is a "smart" investment because it is one that will help to secure their future. Last year about 30% of the loans that the bank provided in education were dedicated to higher education. Most went to about 80 countries, where the Bank has projects.

Dr Marmolejo's infectious enthusiasm is helping to ensure that the Bank remains at the heart of developments in higher education in parts of the world that seldom feature in the upper reaches of international rankings. He believes that it is essential to lay the foundations now if developing countries are to reap the benefits of demographic change that will shift the balance of power in higher education.

As tertiary education coordinator and lead tertiary education specialist of the World Bank, Francisco Marmolejo is one of the key figures in international higher education, particularly where developing nations are concerned. He has held the post since 2012, after a long stint as executive director of the Consortium for North American Higher Education Collaboration (CONAHEC), a network of more than 180 tertiary education institutions and related organizations from North America, Africa, Asia, Europe and Latin America. Dr Marmolejo describes himself as an educator who has worked in the area of internationalization for more than 20 years, who just happens to work at the World Bank now. He was assistant vice president for Western Hemispheric Programs at the University of Arizona, where CONAHEC has its headquarters, and was previously a vice president at the Universidad de las Américas in Mexico.

Painting of a Dutch master

Tony Martin's brush strokes attempt to convey the unique achievements of University of Groningen president, Professor Sibrand Poppema.



Prof Sibrand Poppema

The Netherlands is home to one of the world's oldest and most highly respected systems of higher education, dating back to the 16th century. The QS World University Rankings® 2015/16 includes 13 universities in the Netherlands, all ranked within the world's top 300. An impressive five of these are within the global top 100.

One of these five is the University of Groningen (UG). Its president is Professor Sibrand Poppema, under whose stewardship, UG has risen significantly in world rankings and has taken a lead in internationalization.

Talking to Professor Poppema at the QS-MAPLE conference in Qatar, where he was a keynote speaker, Tony Martin learned much about his strategic brilliance in research performance advancement and in future-proofing his university.

You started your distinguished academic career at the University of Groningen and, almost 50 years later, are presiding over its considerable advance in world rankings and in internationalization. What has been the glue that has kept you stuck to the university, and what have been the chemicals in that glue that have catalyzed your personal success, and its institutional success?

That's a very good question, though I have not always been there. I studied medicine at UG and I did my specialty training and my PhD there. At 29 I was a specialist in lymphoma pathology and my PhD topic was Hodgkin's disease. In fact in France there's a disease called "Lymphome Poppema" because my thesis showed that the nodular lymphocyte predominant type of Hodgkin's disease was an entity different from the other types.

For part of my PhD, I went to Germany and worked there with Karl Lennert who was considered the best lymphoma pathologist in the world. It also was the start of my fascination with internationalization because I learned that although the problems in different countries are similar, the solutions are different; not better, not worse, just different. When I finished, I went to Harvard Massachusetts General Hospital for my postdoc. That's where

I did the first ever work on tissue sections with the then just discovered monoclonal antibodies. They had already tried for a year and concluded it would not work, but I said "Wait, I can do this," because I really wanted to know what are the lymphocytes in Hodgkin's disease. So I did it and that led to a couple of very well cited publications.

Harvard offered me a job but I had to say no because I'd promised my professor back home that I would come back. So I went back to the Netherlands and became a professor when I was 36, the youngest pathologist ever to be a professor there.

Just one year later I got a call from Edmonton, close to the Rocky Mountains in Canada. The family was enthusiastic and, just as we'd all gone to Germany and the US, we moved to Canada. I worked there for eight years and actually became a real Canuck. We never planned to return to Europe, but when my mother in law got ill 10,000 miles away, we went back.

So the glue consisted of two things. One was that, when I left to go to Canada the then president of the university sent me a letter, which was extremely unusual, saying: "You're going now, it's a pity, and we wish you all the best, but one day we will buy you back." Now these are words that in the Netherlands in those days were never used!

Then eight years later they wrote to me again saying "We hear you're coming back to Europe and you're not having a look at UG?" They had a very good story—a new hospital, which is still today one of the most beautiful hospitals in the world, and a new department. So I decided to come back to UG and to run the department of pathology where I'd been before. Then three years later, still the same president asked me to be Dean of Medicine.

We wanted the hospital and the Faculty of Medicine to be merged. It took quite a while because the university president at that time was totally against it, so it took us five years to achieve. But that gave us our University Medical Centre which is a very important thing for UG as it's given us a much stronger Faculty of Medicine. Using problem-based learning, we were already a very good teaching faculty and now we could also improve our research by better using the resources of faculty and hospital.

The merger enabled us to strategize to increase the number of medical students from 240 to 450, all in problem-based, competency-oriented small-group teaching. That was important because it brought the funding

that allowed us to get new academic staff and to increase the strength of our research. And we were able to choose one research focus for the University Medical Centre, and that's been one of the secrets to our success.

Since then we've taken the same approach for the whole of the university, so we have now three focus areas where we address questions that are important to society. The first is how can we make people stay healthy for a longer period of time? in other words, healthy aging. Our second question is how can we make the transition from fossil energy to sustainable energy? And the third is how can we make the transition to a more sustainable society?

In healthy aging we started, some nine years ago, with a large biobank in which we have included a cohort of 167,000 healthy people from families over three generations. We have everything about them, including their DNA which we store in robotized freezer facilities so that we can use it for the next 30 years. We have everything about their lifestyle, their mental status (for depression), their cognitive status (Alzheimer, Parkinson's), their metabolic status (for diabetes, heart disease), and their lung function. So our scientists can learn more about the causes of these big diseases by prospectively looking at this cohort of 167,000 people.

Gradually we came to realize that our real question was what is the contribution of genetics and what is the contribution of lifestyle? Or what is the cause of health? What combination of genetics and lifestyle makes some people healthy till old age while other people have three or four diseases? And it became clear that a big part of our lifestyle is in the food we eat.

So it is about personal prevention and precision medicine. Prevention is the most important part but once you are past that, it is about precision medicine. Francis Collins, the director of the NIH, visited us recently and he realized that the precision medicine initiative in the United States is exactly what we've already been doing for seven, eight years.

Part of the decision to focus a lot of our research on healthy aging was that aging is a central concept in medicine; it starts before conception and certainly at birth, and therefore almost all medical disciplines, including pediatrics and obstetrics are dealing with healthy aging questions. This research focus helps staff in various disciplines to obtain grants because they always have this big biobank cohort study behind them.

Then we asked ourselves the other big question: why are we aging at all? Up till 20 we understand everything is getting better, and more mature, from there it is downhill. Why? The simple answer is because our stem cells are aging. But the big question is: what are the mechanisms by which our stem cells are aging? This led directly to the creation of the European Research Institute on the Biology of Aging, which has attracted new researchers from all over the world, all 11 of them fully focused on biological mechanisms of the aging of stem cells.

That was how we came to understand the power of focusing for a university, and also the power of doing so in a way that will lead to multidisciplinary research. So when I became president we expanded our focus on aging related issues to economics, to social sciences, even to linguistics.

Not only is this multidisciplinary within our university, it also involves other Dutch universities, the European Union, national and regional government, industry and the general population. This has led to €100 million in funding just for the biobank project, simply because we had a very good story, something that was focused, and that was trying to solve societally relevant questions.

Having understood that, we realized the wisdom for the university to extend focus on three areas, so the second one was the transition thing. But why in UG?

Groningen, 50 years ago, had the largest natural gas field of the world and it is still among the top 10 fields in the world. We are suffering from earthquakes as a result of extracting this natural gas, and although there was no strong financial reward for doing so, we still felt an obligation to look for what is happening after natural gas. We have had some very good basic research in various forms of sustainable energy, but that is not the answer to the big question.

The real question is *how* we get from fossil energy to sustainable energy. It is about law, it is about economics and also about social sciences, so we have a strong group looking into what motivates people to use less energy. Thanks to that, scientists at UG are writing the position paper for the European Union and defining the project in social sciences in energy.

This led to us building the Energy Academy Europe where we combine educational programs, both our university's and the vocational and professional programs of vocational colleges in the region and the Hanze University of Applied Sciences, our neighbor in Groningen. So again it is about multidisciplinary research and working with other institutions and again the general population. We are starting a project called Energy Sense with a group of 10,000 households that participate in a study about how much energy they are using and how they can use less.

Our work on the transition to a sustainable society is our toughest challenge. It has to do with governance, with all sorts of things internationally, nationally and locally.

We try to combine our excellence in research with these three focus areas. For instance, according to a Thomson Reuters analysis in 2011, UG was number four in the world in material science, and we use that strength not only in our energy and healthy aging, but also use in our collaboration with IBM on Big Data.

IBM came to us for two reasons. First was to recruit our students, because it is also a war for talent in the IT business. But they also wanted to work with our material scientists to find the new materials that can build the computers we don't have yet. Computers that use less energy, generate less heat and can accommodate yet more vast amounts of data. What is more, IBM wanted us for the huge databases in our three areas.

In Groningen we have, for now, the largest radio telescope in the world—LOFAR—reaching everywhere into Europe; so that gives us an astronomical amount of data, literally! Then we have our Lifelines study, this big biobank which also has an astronomical amount of data. Finally, we are looking at smart grids as one of the key areas in energy. Combining natural gas with wind power with solar power, with green gas and more is very complicated. Then at the other end, when for example households want their car to talk to their coffee machine, that's also going to yield a huge amount of data. The big project there is how to make sense out of all those data. So it helps us to have areas of excellence, put them together with our societal questions, and then also work with industry.

How to work with industry? In Lifelines, we realized the most interesting would be the food industry and the pharmaceutical industry. The pharmaceutical industry is obvious, food industry perhaps not so, but some of the big food companies are going to focus on producing healthy food for aging people who need different forms of nutrition. Nowadays when you say that something is healthy, you have to prove it. How will they prove it? Well, we have a mechanism for that, which is this big cohort. They can test their food in that group and draw on the unique amount of data we have from it. Food is an essential part of a healthy lifestyle, so the food industry has become very important player for our research.

We are not an agricultural university but we are doing more and more agricultural research because we move from health to food to agriculture. For instance, we are interested in how baby milk can be made more like human milk than cow's milk—the differences between the two are just huge. You have to do very sophisticated analyses of what is in both before changes can be made. Also, carbohydrates are usually digested very fast but you can change them so they are slowly digested.

Our scientists do that work in consortia. In this case the Carbohydrate Competence Centre at UG together with University of Wageningen, a top agricultural university in the world, but also with Hanze University of Applied Sciences and maybe with 40 different food companies, including small and medium sized companies. Their question is: how can we make healthier food; how can we create more value out of the raw materials? At the point when the work becomes competitive we make a deal between us and an individual company. But before that time it is pre-competitive and it stays within the consortium. Generally, it is very difficult for a university to work with small and medium enterprises, as they frequently don't have the time for this, but they like the results we can give them within such a consortium.

You only learn when you observe and when you take your consequences, so we learned that this is one of the ways to move forward. We collaborate in similar ways with Philips for instance. Philips Drachten is a company located near us which has developed into one of the smartest factories in the world.

Years ago Philips were producing electric razors in China, until they built this totally robotized factory in Drachten. When you have robotized your production, you might as well do it at home. So now they are only making the low end razors in China and the high end and intermediate ones are being made in the Netherlands again. For this, they need research; they need to know a lot about logistics so that's an area where we collaborate.

We also collaborate with Fokker, the aircraft company, which now makes parts for just about every aeroplane in the world. It is Fokker working with UG in composite technology, and with seven or eight small and medium enterprises also working with composites.

That's been our approach. We have learned how to combine excellent research that we can publish very well and that is relevant, with solving questions that are important for society, with good industry collaboration. This also enables us to obtain the funding despite diminishing government funding for research.

So that's UG's success story in a nutshell.

Back to your question "What is the glue?" The glue is partly that I'm a first generation student and I am thankful to UG and the Netherlands. I could do what I do anywhere in the world, but when I can do it for my own university in my own country, it gives a lot more satisfaction than doing it somewhere else.

The Netherlands as a whole has significantly advanced in education internationalization over the last 10 to 15 years. What are the main forms of this internationalization? And has it been achieved mainly by the efforts of individual universities or by government-led outreach? How does it position itself in relation to the traditional anglophone international student destination countries?

First of all, I believe that internationalization of higher education is one of the best ways of cultural diplomacy. It will allow a generation of leaders with better understanding of the culture and background of other nations than we have at present. Dutch universities are not in the business of international education to make financial profits. Internationalization is also the foundation for brain circulation in the world and the ability for our students to be global citizens. Our government has enabled us to do this. In the Netherlands we are allowed to have English language programs. The Flemish part of Belgium doesn't allow that, and in Germany and France it has been difficult so far. While we are a Dutch speaking country, our

universities have for a long while had many master's programs taught in English. University of Maastricht and UG have moved strongly towards bachelor's programs taught in English and at Groningen 22 out of our 44 bachelor's programs are now fully in English.

For the Anglo-Saxon universities internationalization is almost a given as they teach in English. For us, the big challenge is to explain to the world that we are in a country called one day the Netherlands, the next day Holland, that we speak Dutch which is not German (Deutsch) and that we teach in English! In Groningen we have the additional handicap of explaining that Groningen actually exists! You can't pronounce it, and it's a very small city of less than 200,000 people, but with more than 50,000 students. Anybody who comes to Groningen is sold on it, but if you haven't been there, you wouldn't know its existence.

I think the Netherlands could be a lot more effective in promoting itself internationally. Our government, Nuffic (the Netherlands organization for international cooperation in higher education), and the universities together could promote our education system better. Sometimes we have a government minister who is willing to strengthen it, as is the case at the moment, sometimes not. So it goes back and forth. Nuffic could be more effective, definitely, and so it falls upon the universities to act.

Personally, I have been active in internationalization in science as well as an administrator. I believe it's necessary for UG and the Dutch higher education system as a whole and it has been successful. We now have 4,250 international degree students, which is about 15% of our total, with another 1,500 or so exchange students. The ratio of international bachelor's to master's is getting pretty even since we've been increasing the number of English language bachelor's programs.

Our goal is to reach 20% international students, but demographics tell us that in a few years there will be less European students, and at the same time there will be a lot more competition. The United States has just decided to get big time into recruiting international students again. We may think there are a lot of international students in the US, but when you look at the percentage per university, it is very low. They can accommodate a lot more international students, so the competition is going to be tough.

In all European countries, some more than others, the demographics are already changing, so the number of 18 year olds is decreasing. Everybody will get into this competition for international students, so even to stand still is going to be very hard work, and to grow will be even harder. That is why UG has decided that, in our next five year plan, we need to do two very drastic things. One is to not only have international students and English language programs but also to have a truly international classroom, which is a big thing.

People may think that is easy but to have an international classroom, it is necessary making use of having students with different cultural

backgrounds. It requires having discussion, so you have to 'flip' the classroom, which in turn requires using electronic learning methods. It has to happen in that logical order. You introduce electronic learning so the students can get the information before they come to the classroom. That enables discussion in the classroom and finally you can make use of having international students.

Our staff has been working on several pilots for the past two years or so, but we need another five years, and I believe that even then we will be one of the first universities in the world that can say they have a truly international classroom. It's not just about the students, it's all the things you have to change, which takes more time.

So that is one part, and the other is that we truly believe that, for universities like ours, it is necessary to have a global presence. This is necessary for reputation and it is important where you are.

Trying to establish an overseas branch campus has, in the past, ended in tears for some universities yet Groningen is now setting one up in China. How can you be confident of it being successful? What are the criteria for its success?

We are aware that there are success stories such as Nottingham and Liverpool in China but also failures elsewhere. We believe that it is essential to be in a place where there are many excellent students in search of an excellent university. These conditions are not met in the Gulf States where there are relatively low numbers of students or in South Korea where there are many excellent universities but decreasing cohorts of students. However, in China one can find excellent universities but not enough to serve the 9 million new students each year, and the more than 400,000 seeking international education and going abroad. That's a very big unfulfilled need, and when we are established there, we will be much better known and that will deliver a stronger reputation.

Here's the story. I see this as an "open window" opportunity. UG had opened its window towards a branch campus and there was a train coming by called China Agricultural University with an open window. So this was the moment to jump.

In the city of Yantai, there is an already developed university campus. With two campuses in Beijing, China Agricultural University decided, 10 or 12 years ago, to build a third in Shandong Province. They bought 150 hectares of land right in the middle of a now fully occupied 38 km² high tech zone and less than a mile away from the beach. The city of Yantai put up several campus buildings there. I was amazed when I got there, because the main building was 750 meters long and the campus is green and fully developed. There are more than 100 classrooms which could hold 16,000 students at one time. There are teaching labs and there is student housing available.

It is all there, grossly under-utilized, because when they had finished building there was a government policy that did not allow universities to have a campus outside of their own province. CAU was allowed to have a few hundred students per year, so now there are just 900 students.

Then CAU decided they wanted to have an international joint university campus in the model of Nottingham and Liverpool. They were working with University College Dublin, and signed a contract on December 13, 2013. Perhaps it was a Friday, I don't know, but anyway, one month later University College Dublin had a new president with different priorities. In addition, UCD wanted to make a direct financial profit on this endeavor, so the negotiations ended in failure.

Just last February (2015), somebody called me from the United Kingdom asking if I knew that China Agricultural University was looking for a new partner. I contacted my colleague President KE Binsheng, at China Agricultural University whom I had met last year at North West Agriculture and Forestry University, where we were both guest speakers. And he said "I could have asked you then," but he had no idea that a Dutch university would be teaching in English, so why ask a Dutch university!

Then everything went very quickly. On March 25, 2015, we signed an initial tripartite agreement with the city of Yantai and China Agricultural University with Premier Mark Rutte in attendance. However, we had the vision that, in contrast to many other branch campuses, it should be a research-intensive university with research-driven education. So in the following months we negotiated further about a research building of 40,000 m², research centers and start-up funding. The final and formal agreement was signed in the Hall of the People on October 26, 2015, and King Willem-Alexander of The Netherlands and the Chinese President Xi Jinping were among the attendees.

The preparatory year will commence as early as September 2017, and that should be enough time to recruit the first 1,000 students. This preparatory year will include the usual components about improving English language skills, but we will also insert Western style learning and entrepreneurship and sustainability concepts right from the start. We will start with the actual UG bachelor's, master's and PhD programs in 2018, and each year add more programs to a total of 20 bachelor's and 15 to 20 master's programs and a total of 10,000 students after 7 years.

Why we believe it will be a success is based on the following analysis. The education market is big in China, and Shandong province has 97 million people. And yet they have just two Project 985 universities, Shandong University and Ocean University, while the rest are at provincial or municipal level, so there is a big gap there. The city of Yantai is interested for two reasons, one is they want the alumni of this new university to work in the high-tech companies in Yantai, and second, they want us to collaborate with industry there. As I said earlier, in the Netherlands, we have taken this focus of collaborating with industry, and that is exactly what we also

want to do in China. Another success factor we see is our partner, China Agricultural University, a project 985 university, approximately number 20 in China overall, which is a great achievement for an agricultural university. Worldwide, they are number 18 in Agriculture in the QS ranking and number four worldwide in the US News global ranking. They have a lot of experience in Chinese higher education and research and in recruiting excellent students. Also, as explained above, they will be a great partner for us in our healthy ageing and in our sustainable energy initiatives.

In China, other universities have taken some time to develop their branch campuses, some have pulled out altogether and you seem to be doing this in a rapid and very decisive leap—are you quite confident that this will happen?

We have analyzed the experiences of these universities. Some fail because the setup is too small. We had been considering taking part in a global university campus in Korea for a while but decided against that mainly because student numbers there are shrinking. Also there is no country with a higher proportion of students already in higher education than Korea, so it can't go up. The third reason is that there are many universities, so the conditions are not very good. What is more, we are not very well known in Korea. It would not be a logical thing for us to do.

In China on the other hand, we are quite well known. We have a European Studies Center at Tsinghua University and a Dutch Studies Center at Fudan University and some staff with experience in teaching in China. In the Shanghai ranking we are now number 75, rising from its 101–150 bracket in a just a few years. That's the result of our number of publications, highly cited papers and highly cited authors. Also we already have a good number of Chinese students and alumni, especially from our Faculties of Economics and Business, Science and Medicine. We concluded it had to be China, then this opportunity came by and we seized it!

Western universities cannot just think about this much longer. In China there will be 10 of these internationally joined universities. Ours will be one of the last entering. Initiatives; of course, there are and there will be many other internationally joined programs and some people say, why not go slower with double degrees or other joint programs? But we believe that it is a lot more complicated to do that than what we are doing. It is our own programs and diplomas with our own quality assurance methodology that we are transferring to China.

Of course there are risks, but the financial risks have been limited. All the investment is from the Chinese side. By Dutch law we are not allowed to make financial investments abroad, but that is ok because we are not asked to invest money. What we do invest is our programs and we have to recruit staff, who will be paid based on the tuition fee income in China. The first three years the budget shortfalls will also be paid for by the Chinese so there is relatively little financial risk.

Another risk has to do with the ability to recruit the right students. A crucial element in our decision is that we will be allowed to recruit from the top 10% in Gaokao (China's National Higher Education Entrance Examination). Once the university is approved by the Ministry of Education, we can recruit top students. Not every parent in China wishes to see their 18 year-old child go abroad. What we offer is an international research-based education in China and the opportunity to also study one year in the Netherlands in exactly the same program. So they get the best of both worlds. And they will have access to some of the most prominent international companies in the world. That is one reason why we think it can be a success, and the other is that we have decided it is going to be a research university. More than the other joint venture universities, we will focus from the beginning on bachelor's and master's that lead to PhDs.

It may take a couple of years to get our own PhD licenses but meanwhile we will work with CAU in double degrees and with industry right from the beginning. Every big international industry in the Netherlands I have talked to so far is extremely enthusiastic. They have interests in Asia, particularly in China. They need people that have this training with one foot in the East and one foot in the West, both Chinese students and international students. Chinese students will come to UG, and Dutch students will be able to exchange to our own programs in Yantai. One of the biggest hurdles at the moment for Dutch students to go abroad is not knowing the value of the credits they will get. Students want to study quicker because it's costing them more money than in the past. With our setup they will know exactly what the credits are because they will be exactly the same as in UG.

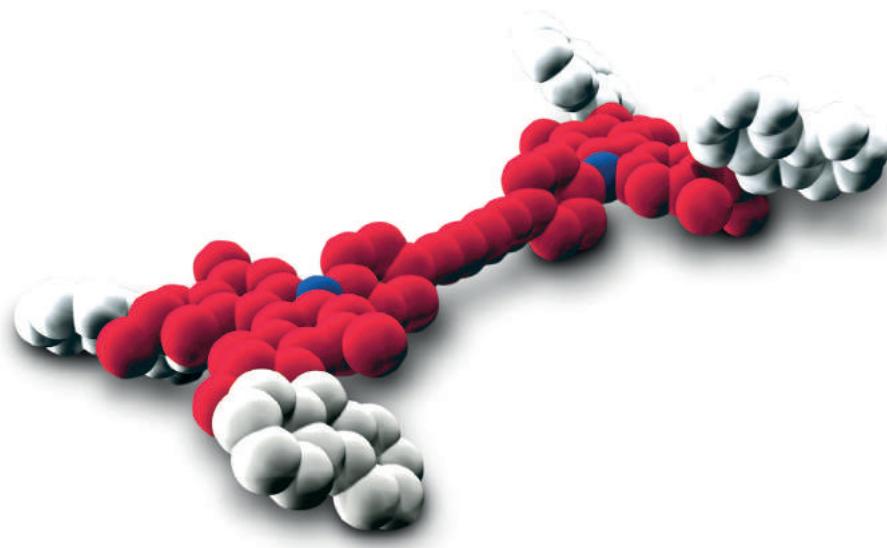
Yet another risk is the ability to recruit the right staff. We are aiming for one third Dutch staff—from UG and other universities—one-third Chinese and one-third international, to make us a truly international university. Will it be possible to get that staff? We were worried about that. Ghent University was also worried about it—they are in the Songdo Global University Campus in South Korea—but in the end it did not turn out to be a big problem. In UG several people have expressed their interest. For every 100 students we need six or seven scientific staff to achieve a ratio of about 1:14. We will aim for two experienced people from UG per program, but will also recruit younger staff. This is a great opportunity for them, because while Western universities are training tens of thousands of PhDs, maybe only 10 or 20% get the academic career to which they aspire. We will be starting early recruiting Dutch, Chinese and other international staff for Yantai as well as to replace staff leaving Groningen.

Another critical question was whether we indeed would be able to attract funding from Chinese and international industry. So far, we have talked to a small number of international companies, including Unilever, Friesland Campina, DSM, Philips, and Solvay and they have all indicated a significant interest with a few already committing to significant research packages for starting professors of €1 million each. There is also significant interest of some large Chinese companies. The side effect of these interactions turns out to be that these companies have also become much more interested in collaborating with UG in the Netherlands.

My colleagues in the Netherlands initially said: "You are brave to be doing this." And this was not intended to be a compliment. To which my reply was: "Looking at the demographics, it might be braver not to do this." However, more recently, some of them start to enquire about the particulars of the project. In a couple of years all of us will be confronted with a shrinking number of talented European students and we will be in worldwide competition for international students. And that will be huge. Not only will the US expand their international intake but European universities are all now considering English language programs for only one reason, which is to attract international students. We want a special position in that competition.

The very top universities like Harvard, Stanford, Oxford, Cambridge perhaps don't need to do this kind of thing. But for the next group of universities, ranked between 20 and 150 in the world, it is a big battle and we would like to be among the winners.

Sibrandes Poppema studied medicine, specialized in pathology and obtained his PhD at the University of Groningen and did postdoc studies at Harvard. From 1987 till 1995 he was professor of pathology at the University of Alberta. In 1999 he became dean of medicine and vice president of the UMCG. In 2008 he was appointed president of the University of Groningen and introduced the three societal challenges healthy ageing, energy and sustainability, and sustainable society. Since then the university has progressed into the top 100 of the major university rankings. Professor Poppema is an expert on Hodgkin Lymphoma, published 250 articles, cited around 11.000 times and has an H-index of 56. He was awarded a knighthood in the Order of the Netherlands Lion in 2007. He is a member of the Netherlands Academy of Technology and Innovation.



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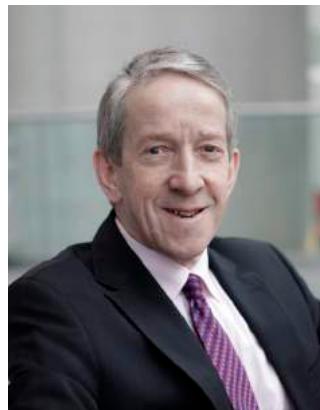
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The educational infrastructure of civil engineering – in need of underpinning?

Thought leader in civil engineering education, **Professor David Nethercot**, talks to Tony Martin.



Prof David Nethercot

Former head of civil engineering at London's prestigious Imperial College is Professor David Nethercot. As a lifelong champion of his subject, he is well placed to advise his peers on its strategic development in world education.

QS Showcase asked Professor Nethercot to explain to our readers the core challenges that the Civil Engineering profession faces, both in academic and practitioner spheres, in sustaining its important role in society and attracting highly able people to deliver that role. He offers the following rationale:

"The world will always have a need for infrastructure whether new construction or refurbishment, renovation and replacement. Established economies accept that these underpinning improvements are a necessary part of continuing growth and progress; emerging economies view the provision of new facilities as both essential to their development and as a sign of their growing sophistication.

"Witness the national prestige associated with the staging of events such as the Olympics and the pride in the new facilities—not just the stadia but the enhanced transportation, accommodation and communications needed for a successful event. The principal challenge for the industry is to meet these ever present needs in more efficient and imaginative ways, which means greater adoption of new technologies. Thus there will always be a need for well educated civil engineering graduates and, as our world becomes ever more complex, postgraduates also.

We marvel at the Golden Gate Bridge, Burj Khalifa and Eurotunnel; but in our daily existence, how much notice do we take of the roads we drive on, the bridges we cross, the buildings in which we work?

Despite its crucial importance to our lives, civil engineering is, in many countries, under-appreciated. This can present problems to those wanting to create and sustain high quality degree programs in the subject in their universities.

"The key is to ensure that the education produces people with, to paraphrase the core message from a recent report from the Royal Academy of Engineering: '*A sound understanding of the necessary engineering fundamentals plus the ability to apply them in an imaginative fashion to the solution of real engineering problems.*'

"Looking back over some 50 years I can see how civil engineering has continuously redefined itself. New topics have emerged as sub disciplines, computing has removed the chore of routine calculation, and the importance of context (delivering what is needed rather than what can most easily be provided) has greatly increased.

"From the most imaginative and challenging undergraduate courses to the opportunities provided by great schemes such as Crossrail (London's multi-billion pound metropolitan rail venture, the first east-west phase of which is now nearing completion), civil engineering welcomes able and inquiring minds into a great profession."

Considerable variations exist in the perceived importance of civil engineering and the respect that the profession experiences around the world. We asked Professor Nethercot for his perspective on this:

"Some 20 years ago I was closely involved with the establishment of a professional accreditation scheme for civil engineering in China that included discussions with Tsinghua University. When inquiring about entry qualifications to the course, I was told that eight of the current first year had been placed as the topmost performer from their province in the school leaving examinations. Such was the prestige and perceived value of a career in civil engineering. Indeed, the former Chinese premier is a Tsinghua Civil engineering graduate.

"Unfortunately, this situation is not replicated worldwide, with widespread misunderstanding of what civil engineers do and of the value of their contributions, especially by the media and in politics. How to correct this has been a perennial issue, probably because those who should be listening prefer their own prejudices to the effort involved in absorbing the evidence. And there is plenty of evidence. Let's look at some historic examples:

- recognizing that the establishment of the London sewerage system was judged the greatest improvement to health in the city;
- experiencing the seamless arrival in Hong Kong at Chep Lak Kok and taking the Airport Express Rail Link, compared with the white knuckle landing approach to Kai Tek, followed by the traffic strewn taxi ride;
- observing the orderly movements in a container terminal as compared with the chaos of mid 20th century docks.

"How do we counteract negative prejudice when we need to? Apart from the obvious: celebrate our successes, instill an appreciation of real values and treat civil engineers as equally skilled and valued as the 'glamor' professions of law and medicine, I have no answer for this one."

Thinking especially of those countries where civil engineering enjoys a lower standing, we asked Professor Nethercot how the profession might be projected as offering a rewarding career, and attract good students to its degree courses. He has an enlightening example to illustrate its case for attracting top students:

"The best ambassadors for civil engineering are, of course, those within it who are enjoying rewarding (in all senses of the word) careers. Their stories are the best adverts we have for persuading able and ambitious teenagers that civil engineering will be more fun than finance, more entertaining than medicine and more stimulating than law.

"We have many wonderful stories. To take one from my own university, one of the key members of the team responsible for designing and delivering London's The Shard (Europe's tallest building) was a female graduate from one of our MSc courses. She made the choice to take this course because she did not feel that using her physics degree from Oxford University would provide the sort of career that she wanted. She is now working on the follow-up development of nearby London Bridge Station together with being an increasingly high profile speaker on behalf of civil engineering, this after featuring as a Marks and Spencer fashion model!

"How should we improve our position? For me it's all about image. The opportunities, challenges and rewards are there but conveying this more effectively remains as elusive as ever."

Referring to his extensive experience as head of a civil engineering department in two top UK universities, we invited Professor Nethercot to comment on how a civil engineering department is best created and sustained to enhance the university's and the department's reputation, achievements and finances.

"My simple answer to this is: excellence, balance and reputation. The first underpins everything: high-quality staff and students with high ambitions drive everything forward. Employ the best quality staff (of all types) that

you can and don't recruit weak or poorly motivated students. Because of the twin foci of research and teaching, together with the rather more nebulous 'contributing to the subject and the profession', recognizing that one activity must not be sacrificed in pursuit of the ultimate in another and, at the same time, that different individuals will have different skills and aspirations, is vital.

"How is success measured? Ultimately it is reputation, being the one that others copy by setting the standards, so aim to be at the highest level in every activity with which you engage. This does not mean chasing after everything but identifying what is important and where there is a reasonable prospect of success and then going hard for that.

"In the end it all comes down to the people. Good people are frequently good at lots of things so having them around means that the unforeseen and the unexpected are likely to be more readily accommodated. During my tenures as a department head I was often asked: How do you see the role? My response never changed: to create an environment in which every member of the department can be successful."

To achieve the excellence that leads to reputation, a university department must have a team of top academics. When recruiting, what attributes should be looked for to identify a successful professor of civil engineering?

be looked for to identify a successful professor of civil engineering?

"Primarily you need someone that others respect for their ability, achievements and application. Finding people with perfect scores under every heading on the job spec is unlikely, so there has to be an element of compromise. However, the ability to perform top-quality research plus a genuine interest in students and a delight in seeing their achievements are, I believe, non-negotiable.

"We often hear about the tension between teaching and research. They should be seen as complementary and, in my experience, most of the best researchers are also good teachers. Of course, if a university or a department creates an environment in which only research is celebrated, intelligent individuals will tailor their behavior accordingly.

"Blinkered researchers should realize that the largest output or 'product' from their university will be the educated manpower that will become the producers of tomorrow.

"Interestingly, in UK civil engineering departments one hears far more about the need for balance, for staff to be 'good colleagues' and discouragement of the selfish pursuit of individual goals at the expense of the common good. "Elsewhere I sometimes hear rather different stories, with much mention of metrics, targets and a consequential loss of focus on the true objectives of a university."

Professor Nethercot, as the publisher of some 400 research papers, is well qualified to explain how to secure the optimum benefits from civil engineering research:

"I have always regarded the distinction between research in civil engineering (in all branches of engineering actually) and research in pure science as being that the former is conducted for a purpose whilst the latter may be curiosity driven. High-quality civil engineering research must, from the outset, have in mind a clear objective linked to identifiable benefits. In addition, it must employ suitable rigor and have a clear focus on the 'physics of the problem' i.e. what exactly is being investigated and what are the real conditions. Once this is understood the benefits from a successful outcome should be clear.

"There may still be much to do in converting a concept into a process—improved understanding into a practically useable procedure, if you prefer. This type of work should be accorded greater prestige. It is, arguably more intellectually demanding than is the original more fundamental work.

"Interestingly, the concept of Impact, i.e. answering the 'so what' question:

'Now that you have completed this piece of research, how are we better off?' has recently gained traction among those judging research quality. So perhaps taking research into the 'making the benefits accessible' phase will now receive more attention."

Emeritus Professor David A Nethercot OBE, FREng, FTSE, NAE, FCGI is a leading British structural engineer. He has more than 40 years of experience in research, specialised advisory work and committee activity in the area of steel, aluminium and composite construction. The author of some 400 technical papers, he has also supervised more than 40 externally funded research projects, several of which were international. He has spoken—often as a keynote presenter—in more than 50 countries. He was the head of the Civil Engineering Department at Imperial College London from 1999 until 2011. Professor Nethercot was president of the UK Institution of Structural Engineers in 2003–04 and the 2009 recipient of their Gold Medal. Appointed in late 2013, he currently holds a three-year tenure as president of the International Association for Bridge and Structural Engineering.

Latin America must pursue an international agenda

After years of frustration, Jeannette Vélez Rosario hopes that her native Colombia will show other countries the benefits of collaboration. She tells John O'Leary that prospects for the region are positive.



Ms Jeanette Vélez

Jeannette Vélez Rosario is the first to admit that Latin America—including her own country of Colombia—still has ground to make up on much of the rest of the world in making higher education more international. But, after 12 years struggling against the tide of bureaucracy, political indifference and scarce resources, she finally sees reasons for optimism.

The chancellor of the University of Rosario, in Bogota, has become a frequent speaker at international conferences, admired for her perceptive analysis of higher education in the region and the prospects for progress.

As one of the most experienced practitioners in internationalization, her judgements carry particular weight.

Interviewed at the British Council's Going Global conference, in London, she was characteristically frank. "If we don't work more between countries, we are condemned in Latin America to be followers on everything," she said.

Ms Vélez said the main obstacles to greater internationalization in Colombia and other Latin American countries were linguistic, financial and legislative. Operating in a language other than English was a significant barrier—"I don't agree with that, but anyway it means it is like that," she said. In addition, often contrasting legislation in 20 different countries made the systematic transfer of credit almost impossible, while resources remained scarce, both in public and private institutions.

In a country like Colombia, where 60% of higher education institutions are private (although not for profit), it was important to look at the system as a whole. There was lack of investment in internationalization in both sectors, contributing to the current poor performance. To bring about substantial improvement would require increased funding and also much more training of staff.

There would also need to be regional collaboration, Ms Vélez said, to establish the conditions for greater international mobility among both students and academics. This was being attempted, for example through the Pacific Alliance, as some universities and governments tried to step up the pace of internationalization.

The Pacific Alliance, fundamentally a trade body, has had no involvement in education until now. "We won't do everything together, but the organization may help to create relevant research programs, for example on port logistics," she says. Although student mobility is the element of internationalization that attracts the most attention, Ms Vélez believes that Latin American research has just as much to gain and has been putting that case to ministers as well as other university administrators.

Colombia has a target to be the most educated country in the region by 2025, and ministers have begun to focus more than in the past on rankings. There are now 12 Colombian universities in the top 100 of QS's Latin American ranking and 23 in the top 200, an improvement on the early years of the ranking.

A new government program will eventually fund 10,000 scholarships for the highest-achieving school students from poor families, who must go to a leading university to qualify for an award. Rosario intends to create more places to accommodate the new scholars without squeezing out other applicants.

Founded in 1653, it is the oldest university in Colombia and known as the "cradle of the Republic" for its role in winning independence from Spain. Based in the center of Bogota, it has produced 30 presidents of Colombia.

Today, Rosario is a leader in the internationalization agenda. The university's strategy for the period up to 2019 aims to "generate a culture of international or intercultural processes within the Rosarista community" and to seek higher levels of participation, recognition and positioning of the university in global higher education.

English is mandatory for all students: 20% of the classes are now delivered in the language and there are plans to raise the proportion further. French and German are among 10 other languages offered.

Rosario is one of the growing Colombian universities, making its name on the international stage. It has been in the top 50 in the QS Latin American ranking in every year that it has been published, scoring particularly highly in 2015 on its reputation with employers. Almost a third of its 12,000 students are postgraduates.

A not-for-profit private university, Rosario is one of 12 in Colombia with national accreditation. It also belongs to several international networks, including the Inter-American Organization for Higher Education, the



Ibero-American University Association and the European Association for International Education.

Within Colombia, the lengthy process of establishing a National Council on Accreditation is now complete. Having begun with individual programs, it has now moved on to institutions. Accreditation has been a wider problem for collaboration within Latin America, but a new network of national bodies is beginning to establish itself. It will make a start with bilateral agreements, with the hope of producing a broader framework in time.

Colombian universities are also looking beyond Latin America, however—something that Ms Vélez says was impossible after the incursions by the United States during the country's struggles over drugs and security. Today's calm conditions have made the country an attractive location for individuals and institutions with an interest in Latin America.

The Ministry of Education established an inter-institutional committee for the internationalization of higher education in 2008. Although the documents that were drafted then fell well short of a national policy for internationalization, Ms Vélez says they represented an unprecedented guideline for future international initiatives and emphasized the need to make Colombian higher education more visible abroad.

Positive developments in other areas, such as international trade, security and the country's reputation abroad have also contributed to changing the domestic and foreign agendas of consecutive governments. More emphasis has been given to issues such as the reduction of poverty and capacity building at all levels, which has helped address the question of access to and quality of education. In 2012 the Colombian government even requested an external evaluation and recommendations from the World Bank and the OECD on public policy for higher education in the country, with a specific chapter on internationalization.

Ms Vélez has observed the change in climate both as an academic administrator and as a former lawyer who specialized in commerce. She was the co-author of a book chapter on management policy in relation to the internationalization of higher education in Colombia, as well as serving on a government committee to modernize the indicators of internationalization in the information on higher education published nationally.

Within her own university, she has been responsible for designing and carrying out the internationalization policy and positioning the university at a global level. Ms Vélez was also a member of the group commissioned by the European Parliament to report on the internationalization of higher education, contributing a section on Colombia to a 300-page study published in July. The report looks at possible scenarios for internationalization in the European context, taking account of the experience of nine other countries, including the United States, Australia and Japan.

In the report, Ms Vélez noted "significant academic cooperation" between Colombia and European Union countries, with substantial participation by France, Spain, Germany, Italy and the United Kingdom in activities such as faculty and student mobility, development of double degrees, and research networks. Although the main international destinations for Colombian students are the United States, Mexico, and Argentina, almost 3,500 had opted to study in Europe.

Not surprisingly, traffic in the opposite direction was rather thinner on the ground. Between 2009 and 2012, Colombian institutions received 515 students from the EU, mainly from Germany, France, the United Kingdom and Spain. China, Australia and Canada also sent significant numbers.

Surveys conducted for the report found that almost half of Colombia's higher education institutions had no policy for internationalization of the curriculum and only 17% made proficiency in a foreign language a requirement for graduation. However, there were about 240 double degree programs, mainly with European partners, and there were 2,767 foreign researchers spread around 161 institutions. Out of 11,105 research projects, only 914 were being developed with international cooperation, but the various institutions were involved in more than 1,000 international networks.

The report found that universities were the main drivers of internationalization in Colombia since there was no national strategy in this area. "This achievement has been recognized at national and international level," the report said. "Nevertheless, current initiatives to make Colombia more attractive as a destination of higher education studies have lacked ambition and a realistic approach."

It added: "Policies at institutional level need to reinforce the overall structure of support for international relations within the tertiary education sector by training faculty staff in the coordination and development of

internationalization policy and by increasing the human resources devoted to international activities. Internationalization is becoming a more complex process, requiring ongoing training and the acquisition of new professional skills."

Ms Vélez says that progress is now being made in Colombia and education has a higher priority than ever for the government, which had made it one of its three "axes". After so many years of putting the case for internationalization, she is hoping that its value is finally being recognized.

Jeannette Vélez Ramirez is a lawyer by training, a specialist in commercial law and financial legislation. From 1984 to 1993, she held several key roles in the Bogota Chamber of Commerce and was also a member of its board of directors. From 1993 to 1995, she was an advisor to the Latin American Federation of Banks, and between 1995 and 2004, dean of the School of Continuing Education at the University of Rosario. She has been the chancellor of the university since 2004, responsible for designing and carrying out its internationalization policy and positioning the university at an international level. In 2014, she created the Observatory of International Education there. She has been the coordinator of projects approved by the European Commission and several governments and international bodies, and contributed to the European Parliament report, The Internationalization of Higher Education, published in July



2015. Ms Vélez was the promoter of Rosario's School of Government and a founding member of the Institute of High Studies of Local Action of the International Cities and Governments (IDHIL). She has been a member of the board of directors of the Colombo-French Alliance since 2007 and received the Order of Merit, awarded by the French Government, in 2009.

Can an academic network go where politicians fear to tread?

Christopher Tremewan tells John O'Leary of his ambitions for the Association of Pacific Rim Universities. They cover research in key areas for the region, but also a new role bringing governments together.



Dr Christopher Tremewan

International networks of universities have proliferated over recent years and have brought significant benefits for their members, mainly through research partnerships. The most exclusive of them, like the League of European Research Universities (LERU), carry considerable prestige, as well as providing a forum for discussion of common concerns.

The Association of Pacific Rim Universities (APRU) has many of the same characteristics but, particularly since the arrival of Christopher Tremewan as secretary general, it has displayed broader ambitions. The

APRU believes that it can provide economic and even political benefits for countries in the region, as well as serving its members' interests.

A New Zealander who was previously vice president/pro-vice-chancellor (international) at the University of Auckland, Dr Tremewan is in his fifth year at the APRU, which is based on the campus of Hong Kong University of Science and Technology. The association was established in 1997 on the initiative of four Californian universities: Caltech, Berkeley, UCLA and Southern California, but had 34 members by the time it opened for business.

There are now 45 members from 16 countries, including Chile, Taiwan and Russia, and a queue of universities who would like to join. Over the course of its 18 years, its chairs have come from Singapore, China, Japan and Australia, as well as the United States.

Interviewed at the British Council's Going Global conference, in London, Dr Tremewan sketched out an ambitious agenda for the association. Indeed, he disclosed that he only accepted the post condition that he could refocus the network and expand its collaborative work, both with other universities and with governments.

"I am confident and enthusiastic about APRU because it has a unique coherence and reach which fits the current geopolitical shifts towards the Pacific Rim," he says. "There is now huge potential to use this remarkable alliance for truly transformational action which brings together education, research, and innovation with policy in fruitful partnerships engaging

other international organizations, governments, business and local communities."

That is not to ignore the institutional interaction that represents the core activities of any higher education network. But Dr Tremewan is determined that APRU should be more than that. In his first year in office, he saw 38 university presidents to ensure that his vision chimed with that of the members.

Dr Tremewan says: "We are still making this a region. One of our objectives is to keep collaborating despite governments' agendas sometimes pulling countries apart from each other. A long term view of the future of the region requires that we get to know each other pretty well.

"We tend to focus on strategic research—data mining on the capabilities of each economy separately and then together on everything from climate change to energy and other topics. That means that we can demonstrate to prime ministers and ministers that we not only have considerable capability in the region, but also where that can be improved with some marginal investment."

Dr Tremewan says that governments in the region are making it clear in discussion with multinational organizations that they want to interact much more with the academic world. "We are at the beginning of that—I wouldn't want to exaggerate the scale of it at the moment," he says. "But it is an important trend."

Dr Tremewan believes that APRU is ideally placed geographically to play a key role at a difficult but potentially pivotal time for the world. The region accounts for half of global GDP, he points out, and he wonders: "Could there be an overarching think tank?"

"We may be a useful vehicle for member institutions but also for governments to discuss issues they can't deal with face to face at an official level," he says. Problems over international property are one example where inter-governmental processes have broken down in the past.

He adds: "We are facing turbulence and technological change, and the challenge is to shape the region collectively, whether or not the ways of governing ourselves remain stable. Many countries are completely unable to cope with what is coming at them. There will be moral choices about where we put our resources and advise members."

At present, APRU organizes research through hubs and by subject, for example making Tohoku, in Japan, the base for earthquake research across the region. "We try to boost the collective strength of members. The question is how do we do what we as a network need to do, which is to bring policy together regardless of governmental approaches?"

The current focus of the association is on three areas: shaping higher education and research in the region (by helping to advance opportunities and building networks of academic leaders and specialists in capacity building, as well as partnering with other international organizations); creating global leaders (by supporting early career researchers and doctoral students, rather than undergraduates); climate change and global health (with universities with particular strengths acting as hubs for the rest. The University of New South Wales (UNSW) is leading on ageing, for example, and Keio on internet governance).

The aim is to leverage research expertise to have the maximum impact across the Asia-Pacific region. "We look at cross-border issues and the ability of societies to face them," Dr Tremewan says. "If we can provide some kind of clever relationship-building that will outlast ... then I think it's quite a positive role."

Naturally, in such a diverse region, there are cultural minefields to negotiate. Gender, for example, has been a big issue in the context of leadership—there was only one woman leading an APRU institution in the early years of the network. That has now changed.

Since agreeing its Strategic Framework in 2012, Dr Tremewan says the association has implemented new proposals, strengthened member interaction through new models of engagement especially program hubs, re-shaped existing programs and discarded others, fitted organization to the strategy, built partnerships with other international organizations and improved communications. "APRU now has an international profile beyond its constituency and beyond the Asia-Pacific region."

The network is now moving from implementing the Strategic Framework into a phase of reviewing progress and focusing on key priorities. "The total portfolio must be coherent, focused and fully engaged both with members and with appropriate partner organizations," he says. "APRU should not try to do everything itself but would have greater impact through selective collaborations."

An audit of research by Elsevier in the form of a pilot annual report on projects in key thematic areas will help to monitor progress. With 140,000 faculty members and 2 million students in the 45 member institutions, it is a considerable task. Three more universities joined in 2013—UNSW; Yonsei in South Korea; and the University of Hawaii. "We don't have universities leaving but some are more active than others," Dr Tremewan says. "There are residual universities that we would like to join, but we don't want to get too big."

Max Nikias, president of the University of Southern California, who has chaired APRU since 2014, has said: "As the world looks increasingly to the Pacific Rim as a center of commerce and culture, the Pacific Rim is looking increasingly at its academic institutions as a wellspring of perspectives and solutions. As chairman of APRU, I am proud of how the association's members are looking to each other for areas of collaboration to meet the demands of our era. Together, we are uniquely positioned to initiate strategic research partnerships, spark student exchanges, and facilitate visiting faculty in service of our mission."

Christopher Tremewan will be at the heart of those efforts. He says: "Research universities will play a critical role in this increasingly turbulent century. They will supply the fundamental research underlying stunning technological developments and provide deep insights into the human condition in an unknown, unstable ecological future. They will face difficult moral choices as the benefits of their education and research are spread increasingly unevenly in an unequal world."

"In this future, which is already at hand, much will depend on human connections and the trust that has been nurtured across many kinds of borders—social, economic, national, sectoral and disciplinary. A network of leading research universities in the world's most dynamic region bears particular promise and significant responsibility."

The coming year will see the build-up to the association's 20th anniversary. Dr Tremewan is proud of the "sinews of trust and collaboration" that have grown since 1997. "A community of interest, cooperation and engagement has been methodically built on the vision of its founders," he says. "Institutions and their leaders now know each other well, understand the diversity of their contexts and value listening to each other and working together."

Christopher Tremewan is the fourth secretary general of the Association of Pacific Rim Universities (APRU), having taken up the role in June 2011. A specialist in social regulation in Southeast Asia, his research focuses on internationalization and diversity, national growth strategies and the politicization of ethnicity. After school in New Zealand, he took degrees in social anthropology from the University of Auckland, a PhD in political science from the University of Canterbury, and a master's degree in public administration from Harvard University. He was elected a senior associate member of St. Antony's College, Oxford, in September 1991, where he published the book The Political Economy of Social Control in Singapore. In 1995 he became the founding director of the New Zealand Asia Institute, which he led until 1999. Before joining APRU, Dr Tremewan was the vice president/pro-vice-Chancellor (international) of the University of Auckland. He was the founder of the Cambodia Trust (NZ). He was recently a member of an EU-funded collaborative research project on the globalization of higher education. He is also a member of the international board of Regional Action on Climate Change and was previously a member of the board of Education New Zealand and an Advisory Trustee of the Chinese Language Foundation.

Beyond the nuclear option

*MEPhI is the academic heart of the Russian nuclear industry. But its rector, **Mikhail Strikhanov**, told Martin Ince that its remit now runs to new academic subjects and new international connections.*



Prof Mikhail Nikolaevich Strikhanov

Atomic energy, once thought to have been irretrievably damaged by the Chernobyl disaster of 1986, seems to be on the way back. And MEPhI, the Moscow Engineering Physics Institute, also known as the National Research Nuclear University, is well-placed to benefit.

Nor are MEPhI's prospects tied solely to the need for carbon-free energy in the era of climate change; Strikhanov explains that despite its origins in the nuclear priorities of the post-war Soviet Union, both civilian and military, MEPhI has grown into a multifaceted research university with an emphasis on technology and with a strong presence in areas such as IT and advanced materials.

Nobody is more aware of the potential than Mikhail Strikhanov, rector of MEPhI. He says: "The range of subject diversity that we should aim for was the subject of recent internal debate. We know that about 30% of our graduates go into the nuclear industry in some form. But that means that 70% do not. IT is probably the second most important destination. In addition, we have broadened out into a wide range of material sciences, including lasers, nanotechnology, biomaterials and photonics."

A university with MEPhI's nuclear core business is inevitably of acute interest to the government. And new ideas inherently require government approval if they are to be funded. But Strikhanov says that the institution has all the autonomy it needs to launch new courses and lines of research. And unlike most Russian universities, public and private industry, as well as the government, are vital partners in MEPhI's work. The university is close to the Russian Technologies Corporation, a major nuclear-based state supporter for Russian innovation in industry, and many other businesses.

Regional reform

MEPhI is one of a number of specialist universities which enjoy high prestige in the Russian system, covering every area from steel to agriculture. But Strikhanov explains that this structure, although regarded as a success, is now in question.

He says: "The Ministry [of Education and Science] has decided that it wants to enlarge regional universities and create a 'whale' university in each region of Russia. That would mean that almost all of the 85 regions had a state university covering science and technology, engineering, agriculture, health, pedagogy and all the other disciplines." In most of the regions, it is possible to imagine how this might be done. But like any other capital area from Paris to Tokyo, Moscow is different. Strikhanov says: "In Moscow you can find a good university in any subject, with good links to industry. So it is hard to reorganize them in a way that will give better results. One possibility is to create federal universities for areas such as transport or health, to match the structure of Russian government ministries."

If federal specialist universities are created in the Moscow region, Strikhanov points out, MEPhI is already in existence as the future Federal Nuclear University, an idea that he has already floated with the government. If it happens, he would expect MEPhI to swallow some other research institutions connected with nuclear and solid state physics, whose presence would enhance MEPhI's facilities and add to its research potential.

But he adds that despite its national importance, MEPhI does not see itself only in the Russian context. Instead, it is growing both its international student body and its international faculty. It is only in the past three years that MEPhI has attended international recruitment exhibitions, and its use of options such as this is set to grow. Many of MEPhI's international students come to study for specialist international degrees delivered in English. While these are a success, Strikhanov agrees that MEPhI's bachelor-level degrees have been less of an international success so far. He adds that of MEPhI's 800 academic staff, 150 are from outside Russia. But while this is a healthy percentage, only 15% of this number are full-time. MEPhI's international faculty, Strikhanov explains, tend to be either young people getting started on their research careers, or distinguished older scholars. He would like more bright scientists from around the world to choose MEPhI as the place for their most productive years of research.

From the point of view of mobile international students, MEPhI's closeness to industry offers a unique educational advantage. Its students spend a significant amount of their time in industry. The idea is to go beyond the placements and internships familiar from the West, in favor of structured educational experience.

Strikhanov explains that the university's biggest single partner is Rosatom, Russia's dominant supplier of nuclear power stations and its biggest

participant in all phases of the nuclear fuel cycle. Because Rosatom has agreements with about 40 other nuclear organizations around the world, this connection makes it simple to place international students in industry. He says: "The Russian government is happy to support these exchanges financially, because the money comes back in industrial contracts. An example is our work in Turkey, where Rosatom is involved in several nuclear power stations projects. We had over 800 applications for 70 places. In that case the Turkish government paid to send students here." Other agreements with international partners cover students connected with nuclear projects in Kazakhstan, Belarus and Ukraine.

But Strikhanov is keen to add that his graduates "do not all go to work in nuclear power stations." They also work with electronic materials, lasers and in other areas of high technology. And the university's highly valued IT graduates can end up with even more fascinating career paths. Strikhanov says: "Many go to work in the finance industry, and we are a major educational partner for the state financial monitoring agency." He is especially pleased with a new use for MEPhI software that was developed for tracking subatomic particles. It turns out to be ideal, with adaptations, for the equally tricky problem of tracking money-laundering.

High-cost success

One aspect of MEPhI that strikes the Western visitor is its success in expensive subjects from which many universities around the world have withdrawn on the grounds of cost. In the Russian system, an engineering student brings in up to about three times as much in fees as someone studying the humanities.

Perhaps as a result of its high level of resources and its success in building engineering careers, MEPhI remains a destination of choice for Russian students. Its entrants have a high score (250 or more out of a possible 300) in the competitive entrance exams, making MEPhI the second-hardest technical university in Russia to get into. 60% of its Russian students are from beyond the Moscow region, a further demonstration of MEPhI's national standing.

Strikhanov's view is that while Russia teaches undergraduate subjects as well as the West, at least in technology, it has fallen behind at graduate level. While academic work is prestigious in Russia, salaries have fallen in line with the poor state of the ruble, and need to be further improved. He warns that even his politically popular institution is not immune to economic reality. While the Russian government has declared that funding for science and technology will not be reduced, and has even increased it, the weakness of the ruble means that resources are down in real terms.

For Strikhanov, this is the real importance of the 5-100 project to get Russian universities better recognized in global subject rankings. 15% of the university's income is for the 5-100 project and he thinks more is needed. For one thing, it is discretionary money whose use MEPhI can decide upon, the most useful form of university funding. It could be used in part for building international collaboration and for enhancing internal procedures, such as audit, to global standards. And as a supporter of the 5-100 initiative, he adds that its current two-year cycle is too short for the kind of stability needed for university planning.

QS already ranks MEPhI in the 51–100 bracket for its work in physics and astronomy, 200 up on last year, and in the 301–400 band for mathematics. MEPhI also comes 22nd in our ranking of universities in Emerging Europe and Central Asia, and 51st in the BRICS nations. It is in the 501–550 band of the overall World University Ranking—impressive for a specialist institution.

But Strikhanov adds that the quality of his graduates speaks for itself as a measure of MEPhI's success. "Most of the Russians at CERN are from here," he points out with pride.

Mikhail Nikolaevich Strikhanov is a distinguished nuclear physicist who has worked in the field of high-energy physics in Russia, and with colleagues at Brookhaven and Stanford in the US, including work at SLAC, the world-renowned Stanford Linear Accelerator. He became Doctor of Science in 1992. Professor Strikhanov was deputy education minister of the Russian Federation for some years from 1998 before being elected rector of MEPhI in 2008.

Good times can soon return for Indian higher education

Performance in international rankings has been disappointing but India's universities can capitalize on favorable demographic trends, W Selvamurthy tells John O'Leary. He sees signs of progress in a number of research fields.



Dr W Selvamurthy

Indians have become accustomed to criticism about the failings of their higher education system, at least in terms of its performance of international rankings. But one of the country's most experienced scientists believes that India is on its way back to its historic position as one of the leaders in science and innovation.

Dr W Selvamurthy has spent a lifetime in research, with a number of notable achievements to his name in the defense field. They include important advances in physiological acclimatization at high altitude, the development of a drug to save casualties following severe hemorrhage, and processes to manage psychological stress.

After 40 years in the Defence Research and Development Organisation, latterly as a chief controller, he has become president of Amity Science, Technology and Innovation—part of the private education empire that extends from pre-school to the rapidly expanding university network. As such, he is well-placed to give a sober assessment of India's prospects.

Speaking at the QS *in conversation* conference, held at Amity's headquarters campus at Noida, near New Delhi, he says: "India is the cradle of innovation. Everyone is concerned about positions now, but the picture is optimistic. The achievements in space technology show what we are able to accomplish. Some universities are now emerging as innovators."

Dr Selvamurthy says: "India has rich traditions of knowledge dating back hundreds and thousands of years. There is now a trend emerging for India to become a knowledge superpower—there are visible changes in information technology, biotechnology and other areas that clearly indicate this."

India already has the largest higher education system in the world, with 659 universities (central, state and private) and 33,000 colleges, but now he believes that quality is being transformed. The combination could take it back to a position among the global elite once more.

"By 2030, India will be among the youngest nations in the world, with nearly 140 million people in the traditional college age group," Dr Selvamurthy

says. "One in four of the world's graduates will be a product of the Indian system."

At present, only 13% of the education budget goes on universities and 6% on technical education, compared with 30% on secondary education and 51% on elementary education. He believes that the proportion devoted to universities and technical education will rise eventually to 30% or even 40%.

What Dr Selvamurthy describes as a "minuscule" proportion of the budget is going on research and doctoral students. Whereas there were 17.5 million undergraduates and 2.5 million postgraduates in 2012–13, there are only 161,000 doctoral students. At Amity the number of PhD students is 1,000 and rising—a determined attempt to create an ecosystem for research.

Dr Selvamurthy acknowledges that India's representation in world rankings is small for such a large country, but he believes that, with the right strategy, this can be put right.

"The education system must be a hub to attract global leaders," he says. "Foreign students are coming—there is a trend to get more students over here—and MOOCs are becoming very popular. There is an urge to learn, even if not on your own campus. Applications are increasing tremendously."

India can certainly become a hub of technology, he believes. "In the 1950s it was the US and USSR in that role, now China is on the rise. But 100 global companies have centers in India and we are going up. Most creative and innovative human resources are available in this country."

Economic trends suggest that China, USA and India will be the global leaders in the foreseeable future. "India is emerging as an economic leader and will need high-quality education," Dr Selvamurthy says. "The middle class is increasing in size and will demand higher quality university education—there are people who can afford to pay for it."

India also has the fifth largest number of think tanks, a feature which Dr Selvamurthy considers important for their impact on creativity and growth. In science and technology, India has shown its potential with its satellite and launch vehicles. Amity has 200–300 graduates a year going into aerospace, working at all levels of the industry. "In defense technology, too, our laboratories and institutes are contributing, for example in navigation," he says. "Universities are now doing basic research contributing to the defense sector and the development sector."

In other areas of science and technology, there have been achievements in open source drug discovery, indigenous supercomputers, post-harvest technologies and the Laboratory for the Conservation of Endangered Species. There have been advances, too, in atomic energy for peaceful purposes and India is already a hub for IT.

Overall, India is seventh for the number of patents filed. The US and China are well ahead, but India is not far behind Germany and ahead of Russia, Canada and Australia. India as a whole is increasing and Amity has filed 582 patent applications in five years.

In the Strategic Framework of India's 12th Five-Year Plan, higher education was given a high priority. Within the field, expanding the availability of higher education was the top priority, along with narrowing the gap in access and improving the quality of teaching and research. One key focus has been the synergy between teaching and research with a learner-centric approach. There have been more partnerships with overseas institutions, both to learn from them and to share good practice.

Dr Selvamurthy outlines key ingredients for growth in the knowledge economy: research and innovation is the top requirement, followed by strong and positive policy and public/private partnerships. "There has been more involvement of the private sector, which has been an important change," he says. "Everyone used to be in separate silos for research, for example, but that has changed."

"Why are there so few institutions at the top of the rankings?" he asks. "Because of the lack of high-quality teachers; the focus needs to be on how to attract more talented people into teaching rather than IT or medicine. And what ails the Indian higher education system? A lack of high-quality researchers and the paucity of opportunities for interdisciplinary and multidisciplinary work."

"There has been a lack of early-stage research experience, which leads to a weak ecosystem for innovation and commercialization. There have been too many ideas and too little implementation, a low level of industrial engagement and internationalization. Now, however, biotechnology, nanotechnology and IT are converging, and universities are playing an important role."

Dr Selvamurthy says universities need autonomy and flexibility—there have been too many strict regulations and too much government control. Current science and innovation policy is trying to change that. Technology parks and innovation centers are increasing "Where key stakeholders are together on one campus and they are going to produce key innovation," he says. "The triple helix of universities, business and government working together is needed to make significant progress."

The private sector will have a vital role to play. Enrollment in private universities rose from 10% in 2000 to 13.8% in 2010, and has gone up again since then. "The sector is good at collaboration with industry and foreign providers," Dr Selvamurthy says. "It can help bridge the growing gap between supply and demand with multiple campuses in India and overseas. People demand quality from private universities—it is absolutely vital for the sector to protect levels of both quality and quantity."

In Amity, there are eight universities, more than 150 institutions in total and 18 schools and pre-schools, as well as 11 international campuses. They contain 125,000 students and 10,000 faculty and scientists. The universities offer 250 programs in 60 disciplines and offer 25,000 scholarships and 27,000 on-campus work placements. It is a holistic education program at all levels. With 137 current research projects and over 5,000 papers published in leading journals, the research culture is strong. Spin-out companies are doing well and are expanding.

Dr Selvamurthy believes that the outlook both for Amity and India as a whole is bright. "India is in the top five countries for production, but still needs to increase its productivity," he says. "Its universities are striving to achieve excellence and rise in the rankings."

"India has the tremendous advantage of having one of the youngest and largest populations in the world. This means huge numbers at the most creative and energetic phase of life. There are also cost-effective initiatives for people at the bottom of the pyramid to be able to play their part."

Dr W Selvamurthy is president of Amity Science, Technology and Innovation Foundation and Director General of Amity Directorate of Science and Innovation, based at Amity University, in Noida, Greater New Delhi. Dr Selvamurthy served as a chief controller, research and development (life sciences and international cooperation) at India's Defence Research and Development Organisation (DRDO). He holds a master's degree in human psychology from Christian Medical College, Vellore, and a PhD from the University of Delhi. He also has a Doctorate of Science from Swami Vivekananda Yoga Anusandhana Samsthana (Deemed University), in Bangalore. Born in Sivakasi, Tamil Nadu, he has been awarded honorary degrees by a number of universities in recognition of his scientific work, having led the research and development activities for the health and wellbeing of the armed forces. Dr Selvamurthy joined Amity in 2013 after 40 years at the DRDO, during which he became Director of the Defence Institute of Physiology and Allied Sciences and the Defence Institute of Psychological Research. Among the research advances in which he has been involved are the development of life support systems for soldiers in extreme operational environments and the application of yoga for the armed forces.

A new start for higher education after 35 years of war

Abdul-Qayum Mohmand returned to Afghanistan to lead a new institution with the backing of the Taliban. He tells John O'Leary that such initiatives will be vital to meet the growing demand for university places.



Dr Abdul-Qayum Mohmand

Private universities and institutes will play an important role in reviving higher education in war-ravaged Afghanistan, according to an academic who has returned from the United States to play his part in the reconstruction by founding a new institution.

Dr Abdul-Qayum Mohmand is a leading researcher and writer on political science and Islamic affairs, who is also chancellor of the nascent Afghan Institute of Higher Education, in Kabul. The new venture, launched in 2012, is among the best-endowed of a string of private institutions that have sprung up in recent years.

More than 130,000 Afghan students, a third of them female, passed exams to enter university for the current academic year. But the public universities and other higher education institutions could take only 92,000 of them. The remainder had to pin their hopes on the private sector or, if they could afford it, apply overseas.

It is a stark choice because while the state system offers free education, many of the universities have been left in a desperate state by 35 years of war and underinvestment. The 60 private universities have only about 18,000 places between them, have to charge fees to remain solvent, with few scholarships, and are of variable quality.

Professor Usman Babury, deputy minister for academic affairs at Afghanistan's Ministry for Higher Education, described the impoverished state of the university system in a presentation to the British Council's Going Global conference, in London. He said teaching had deteriorated along with the facilities, and research had virtually ceased. At least 40% of college-age students suffered from mental health problems.

Institutions were trying to maintain relationships with overseas partners while they rebuilt and lobbied to revive higher education in the country. After the emergency, they could be a unifying force and a future source of national pride, but they could also be a negative and disruptive force. Professor Baburi said private universities were filling a gap for the growing number of students gaining the marks required in the "Kankor" admission test that allows them to study for subjects like medicine and engineering.

Dr Mohmand, who taught at the University of Utah before returning to Afghanistan, concurs with the analysis and does not spare the government from criticism. "More than 30 years of war have devastated a lot of educational institutions and there was no possibility of getting new materials," he says. "The educational elites have left. We are left with a few professors from the old generations or those who have stayed on at institutions where they studied."

"There has been little commitment from the Afghan government or the international community. Schools have been built but there is no human infrastructure or intellectual capabilities.

"We have to come out of this dilemma but three elements are holding us back. We are still locked into ideas of Marxism, Islamism, and sectarian nationalism."

Other commentators have been equally critical. Farid Saydee, director of the Afghan Language and Culture Programme at San Diego State University, for example, said the entire education system in Afghanistan was in a "deplorable condition". Writing in University World News, he said the current government had expanded higher education but had funneled international aid into increasing student enrolments rather than revising outdated curricula and improving facilities.

He identified the lack of qualified teachers as another major challenge for the Higher Education Ministry, with more than half of teaching academics holding only bachelor's degrees, the majority having been employed during the war years as a result of political and ideological affiliations. "Replacing these academics with those who are qualified will be a major challenge for the government," he wrote.

Interviewed at the QS-MAPLE conference in Doha, where he put the case for a wholesale reform of Afghan higher education, Dr Mohmand says: "We need funding for modern education and scientific research, especially for staffing, a non-political commitment and freedom from the ruling parties. The Afghan education system dates from 1932 and lacks objectivity and openness. It is subject to politics and professors often read from old notes while students memorize."

"We have investigated different structures. We went to Malaysia to talk to Islamic institutions there and we have made contacts at Qatar University. We are trying to build our education system on international standards. It will be a dual system: one for non-English speakers with a pilot track for

teaching in English, probably based on the US model. Most teaching is in Pashto for now. Accreditation is a challenge but that is our aim."

The institute is yet to graduate its first students, but has lofty ambitions. There are now 600 students taking Sharia law, political science, engineering, business administration and economics, with plans to add science and non-Sharia law.

The aim is to expand gradually to 15,000 or 20,000 students within 30 years. After the second track (of English teaching) is introduced, Dr Mohmand hopes to attract foreigners, who would have their own housing and a complex that would include entertainment. There might be two separate institutes on the same campus if a two-track system fails to win official approval.

"We had to apply to be a teaching institution at first, but we hope to become a university after four or five years," Dr Mohmand says. "That would require greater facilities and a research institute, as well as facilities like a library and a gym. We are working on that. Students would all have to be full-time.

"At the moment, there are 250 female students and 350 male, with roughly the same proportions among the faculty," Dr Mohmand says. "We have provided scholarships for 220 students. There are 12 years of schooling in Afghanistan and demand for higher education is growing, but there is the challenge of finance—other private universities don't have scholarships. A lot of private universities are just giving degrees, not education. I recommended that there should be a national examination [at degree level]."

Dr Mohmand says many of the private institutions are too small to function as universities, while the public universities cannot take enough students to satisfy the demand. He believes that they all need overhauling for the new age of technology, but there is a lack of investment and a shortage of people and books. We are installing e-learning technology, perhaps with UCLA or other Californian universities. It is already installed at the American University of Afghanistan in the social sciences department and political sciences."

Dr Mohmand has appealed for foreign assistance for the Institute both at the QS-MAPLE conference and on other occasions, but he says that he and his colleagues are also trying to create funding for international assistance for other universities' students through the Afghan Fund for Peace and Development. The aim is to get money from Afghans abroad and at home, partly to create other institutions.

"We have talked to professors in the US, UK, Germany and France as well as Malaysia," he says. "Some would come for a semester or even long-term if

we could guarantee housing and security."

"We are guaranteeing security—the Taliban supported the establishment of the institute. Perceptions are changing in Afghanistan. I told them I would do this under one condition: that there is no influence by the Taliban on university teaching. I was teaching at the University of Utah and was an assistant professor at the American University of Afghanistan for several years, then at the International Institute of Advanced Islamic Studies before going back to Utah teaching political science and international relations."

The aim is to produce a safe environment for critical thinking, research and better learning, he says, as well as to integrate the arts and sciences. "We suffer from a lack of access to information," Dr Mohmand adds. "There is limited internet capacity and we are subject to legal challenges. Getting physics materials, for example, is difficult, having to get through three or four sets of customs."

The Institute is hoping for professors to go abroad for short periods of training, although it has limited finances; Dr Mohmand admits that it is already in the red. The Institute has a complicated structure: although owned by shareholders, it is 60% non-profit.

"We hope to serve society through teaching, scholarship and research limited by the impact of 35 years of war," he says. "The initial approach with students is to challenge their critical thinking, forcing them not to accept preconceptions and encouraging argument. We are inviting visitors once a month, often from foreign embassies. We are seeking advice on curriculum: we are not market-oriented but people-oriented. We try to study people and put on courses based on that. It is still a war zone and education is a challenge, but we are trying to do our best despite the practical limitations."

Abdul-Qayum Mohmand is a political scientist who specializes in international relations and security. But since 2013, he has also been chancellor of the Afghan Institute of Higher Education, in Kabul. His last post before returning to his native Afghanistan was at the University of Utah, where he taught political science and Middle East studies, with a focus on international security, political violence and terrorism. He has also worked as an independent researcher and consultant in the United States and Afghanistan. In 2012, Dr Mohmand was a research fellow at the International Institute of Advanced Islamic Studies, in Malaysia. Previously, he was chair of the Social Sciences and Humanities Department and assistant professor at the American University of Afghanistan. He has published numerous articles in English and Pashto, and is an advocate of greater transparency and campaigner against corruption in government.

Saudi women's university lays foundations for the future of its gender

Tony Martin meets leading Saudi protagonist for women's education, **Dr Haifa Jamal Al-Lail**, president of Effat University.



Dr Haifa Jamal Al-Lail

The news in December 2015 that women in Saudi Arabia had been elected to minor political posts hit world headlines. This was the first election in the kingdom in which women were allowed to vote, the first in which they were allowed to run for office, and the first in which women were elected as politicians.

This is not the only evidence of slow but steady progress in the developing role of women in Saudi Arabia. During the 5th QS-MAPLE conference in Qatar, Tony Martin learned from Dr Haifa Jamal Al-Lail, the president of Effat University—a private all-

female institution located in Jeddah—how things are moving in social and governmental attitudes.

While the number of women's only universities is declining rapidly in the West, it appears to be rising in countries where fully co-educational institutions are not the norm. Why is this growth happening?

Since we started higher education in Saudi Arabia, the universities have been open for males and females. They have different campuses for each so they are segregated, but women have been allowed since the day that the universities—starting with King Saud University in 1957—were established both for men and women. We cannot call it co-educational but it is one education, one institution even though the genders are segregated.

However, now many institutions in the kingdom have started to go towards females because they are showing a big demand for higher education. You can already see the results from the number of female graduates joining the government. In fact females now represent over 50% of graduates of Saudi universities. So the expansion of women's only universities in Saudi Arabia is driven by the demand from females.

I note that you have long embraced the cause of the empowerment of women, and that you were chosen to found the first private non-profit Saudi women's higher education institution, Effat College, which has since become Effat University. What have been the main challenges you have faced in this quest? How have you overcome them?

Well I did not actually found it, I was just one of the people who founded the university. Queen Effat, God rest her soul, and her husband the late King Faisal, were looking at education as a part of how to develop society and our nation. They established the first only female school, Dar Al-Hanan School, in the whole kingdom in 1955. Yes, I am proud to be part of that educational development. It is with that kind of vision that they established Effat College, which has since become a university. Adopting the founders' unique vision, we wanted to advocate the ability to give females an international perspective while they remain in Saudi Arabia.

Most of us have a chance to travel and get educated in the West so we've got that flavor. We wanted to enable that for more Saudi women, and the best way to do so is through private higher education, which gives flexibility. At the same time it gives the ability to equip students with an international perspective and vision, and to connect with other females all over the world.

Not long before she died, the Queen wanted to open this college. She told her daughter HRH Princess Lolowah Al-Faisal, the vice chair of the board of trustees of Effat University, to go and find the best model. So she went and visited the Seven Sisters (liberal arts colleges for women in north-eastern United States) and this created the vision of Effat University and the way we wanted to build more liberal education inside Saudi Arabia. This would help the development of the whole person, not only academically and professionally, but also ethically and personally.

This kind of spirit is not only about religion. All religions are the development of the person and the respect that follows. Tolerance of other people and other cultures is part of this kind of education and something that the person should acquire. Critical thinking, diversity, it is all part of this. It is a part of our way of developing a program—designing a curriculum, and

extracurricular and co-curricular activities for the student. So this whole approach came together in order to bring Effat University into existence.

I see but how is that different from the main public universities, what is the main distinction?

The main distinction actually is very small. We cannot actually call ourselves "liberal arts". It is not against the religion, it is more that the word "liberal" is not perceived well in our part of the world. Liberal education is actually embedded in most of the government institutions, such elements as the breadth and width of knowledge, and the importance of critical thinking and of diversity. It is offered through all the sciences, humanities, social sciences and it is embedded in most general education programs that most universities are offering. With Effat it's in giving one-to-one attention, mentoring, and offering small size classes. This cannot be done easily in government universities.

At the same time we have this flexibility with the labor market, with the employers. It is as if we are customizing things for them, customizing the students and the graduates to their needs. However, it is not only for employers because our board of founders is well aware of the needs of the nation. They want that kind of holistic development that helps students not just to go and work, but also to raise their family. We still believe that the mother is very important for raising the child. Without her close relationship with her kids, the family unit is not going to survive or thrive, and she needs that kind of balance all the time. This is the philosophy of Effat University, and it is the philosophy of Queen Effat (God rest her soul), and all of her sons and daughters.

Effat University is different from most Saudi universities in being a private non-profit entity and in being a women's only institution. How well is this formula succeeding? How is Effat achieving recognition?

When we first established universities in the kingdom, the private sector was not allowed. However, in 1999 the government started to feel that the private sector can be a partner in higher education. So they gave it authority to start private universities and at that time the Queen could apply for a license, and she got one. As a non-profit organization we had never experienced anything like this in the structure of an institution, as this is new to the whole Kingdom of Saudi Arabia. We felt that we wanted to look at the mechanism, the management, and the way that the institution is run. From 1999 to now, we have partnered with the government in creating the system of private higher education in Saudi Arabia, and as well as that we have learned a lot, mainly from the whole world around us.

We have one partner in Japan, we have one partner in Sydney, but most of our relationships and partnerships have been built with the United States. This is because, as I mentioned, we started with the Seven Sisters and their



concept. We felt that we needed to learn a lot, so we attended boards of trustees, we had meetings with several entities and attended exhibitions. We also attended the American Association of Colleges and Universities' conferences to learn more and more, and from that we built knowledge and information. As a result we started applying for recognition. When the National Commission for Academic Accreditation and Assessment (NCAAA) was established in Saudi Arabia, we were among the first universities to apply and we are now fully accredited. Effat University is now well known when we travel in the US and attend international conferences, so there is also that kind of recognition.

You mentioned that over 50% of Saudi university students are female, yet Saudi Arabia is viewed to be a highly male-dominated society where women play a secondary role and have fewer privileges than men. What is happening in Saudi Arabia to address issues of gender equality? How do women graduates find jobs? What measures does Effat University take to help its alumni with their career ambitions?

Effat University is offering females educational opportunities that were never given to them a long time ago, for example engineering. As a female in Saudi Arabia, at my time I didn't have the chance to study engineering because it was not allowed for women. There were a couple of other majors that females were not allowed to study, but since we established female private higher education, King Abdullah, God rest his soul, established a Royal Decree that allows a woman to enter any education major or any field.

These developments happened gradually, so to make an employer open a place for our engineering graduates took some time. And now they started to accept them, they have started to realize how they are good, maybe better than men sometimes. Most businesses are thinking about

opening sections, or allocating some area in their departments for females. But culture is culture, you can't just change it with a magic wand. You are not communicating only with a government for policy but communicating with the whole society. And in society some people want, some people don't want. In order to see how we can put things in perspective that are acceptable by the people, we need to introduce it in such a way that they see how it is beneficial.

My mother didn't have the chance even to work, but when the whole economy started to collapse during the late 1980's, the second income in the family became very important. And men wanted to marry the females who had a job, so that kind of pressure helped social change and women started to work everywhere, not only in teaching jobs. They also started opening their own companies. There are some challenges that they face, but with this kind of challenge, they managed to create policies that helped them to promote the idea of how to get involved, for example, in accounting departments and big conglomerates. The women by themselves began to acquire these kinds of policies from the government.

So having a high number of female graduates enables the government to know exactly their needs. This kind of approach is changing various policies. It is something that is happening, and it is happening in a speed different than during my time. It is very quick. You see changes happening every day, and females getting into the job market more now than before.

Internationalization has become a key measure of a university's success and this involves a high degree of international student mobility. What restrictions does Effat University face to achieve the level of international development that will contribute to its future success? How are you overcoming them?

From day one the government has allowed student mobility, but there are some rules for how to do it, so for example I had a chance to study abroad.

Some families don't like the idea of their daughters going overseas on their own, is that correct?

Well who doesn't want somebody to give them a scholarship and study in the best universities in the world? Getting the scholarship is very big incentive to go. Anybody, male and female, can go if they are offered a place at a good university, and if your father—or as a female, your husband—allows you to go. There is a consent form and most of us complete it like a regular paper. It is a required document similar to any other, like a driver's license. Take me, for example. I get in my passport a kind of permission that goes with the validity of the passport. So I can travel anywhere, and the government will not stop me. But it depends on my husband, it depends on my family. If they don't allow me to go, then I don't get that permission, if they trust me, then I do.

Is there a shift in the attitude of families in this respect?

This is a big, big thing. I don't think that my family would have allowed me to go and study without my husband, but nowadays I see a lot of the new generation traveling. They travel with their husbands or their brothers or their fathers, but within a few days or one month, they leave them there. So, yes, it is a big change and you see them mostly in the States, in the UK, alone, either with a Western family or sometimes with themselves in a house or in an apartment. That is a big change for us to see.

In terms of broader international development, not just student mobility, what are the challenges there? And how are you achieving this?

The restriction at this moment is to achieve the right level. For example, if you want to get well ranked, there is one criterion that 50% of your student body is international. But I don't think a lot of Western girls want to come to Saudi Arabia for example.

I would agree it is not a large majority and it is not a mass destination. But I would have thought there is quite a large niche market for people who are interested in Saudi Arabia.

Yes, we usually attend, for example, NAFSA, the major US international education conference, to recruit international students, and we get a few entrants. Of course, there are some incentives that we need to put into place, and that is a challenge that we face: "Okay, do you have a scholarship or not?" Students look for opportunities that help them get the experience that comes with international study, so that is one thing.

Another is the student visa, which is something that just came out five years ago. Before, it didn't exist. With that structure now in place I'm expecting more international students, and that will help a lot as it brings a different perspective into an institution. Getting this kind of openness will help. If students are with Saudis all the time, there is no interaction with others. This will help you understand other things about yourself and how you think about others. This kind of meeting, of the mind and of the soul, helps a lot for international development, because the core, the heart of international development is not only the percentage or the numbers, it is of the experience itself. That is what matters.

We had a student from Yale, who spent one year with us. The whole experience was different for her. It enlightened her about what is a Saudi female, how she acts, how she sleeps, how she eats, how she works, how she connects with her fellow students, how she celebrates things. All this is something that is unseen for the people from outside, but when you come and live inside Saudi Arabia, inside Effat University, then you get together with those people, male and female, and you see their experience and you live it!

From that kind of experience you get international development, not just having a certain number of overseas students. I had to go and live abroad, so that I could learn about the whole international perspective from being an international student. In the US, I learned a lot from other people, not only from the Americans, but also from the Chinese. We were all in one class, so this kind of a different perspective, different thinking, different background, and different territory all affect the way that I now act, even in a classroom. It made a big difference for me and I appreciate it. I always say that it is a two-way street. International development in one country doesn't happen unless you have this kind of cross fertilization.

That's brilliant. Is there anything else you would like to offer in terms of presenting Effat University to presidents of universities around the world, which is what QS Showcase is all about?

I think Effat University is an icon for a Saudi female, who wants to get the best of the world while she is proud of her identity at home. Effat University has always given her the best in world education. The partnerships that we develop with a lot of institutions all over the world is giving us the chance to balance between what we have at Effat and what the world is offering.

So I want the presidents of universities in the whole world to understand that we would love to connect. But the whole thing should start at home. We are a home-grown university opening our arms to the rest of the world, whether they come to us or we go to them.

Dr Jamal Al-Lail is a graduate of Dar Al-Hanan School, the first school for girls ever established in Saudi Arabia by HRH Princess Effat Al-Thunyan, wife of the late King Faisal. After obtaining her BA in business administration from King Abdulaziz University, and MA and PhD in public policy from the University of Southern California, Los Angeles, USA, she started her journey as an ardent educationalist striving to develop girls' education. Dr Al-Lail served in many capacities until she became the first dean of the Girls' Campus in King Abdulaziz University from 1995 to 1999. Quickly afterwards she became one of the key players for positive change in her country through her leadership of Effat University, the first institution for private higher education for women in the Kingdom. Dr Al-Lail has received many awards. Some of these include the Award for the Arab Woman and 1000 Women for Nobel Peace Prize in 2005, the medal for the World Family by the World Summit in Warsaw, Poland, in 2007, and the "Leading Woman CEO" Award in 2010.

A model of applied and vocational education tailored to the unique demography of the United Arab Emirates

President of the UAE's Higher Colleges of Technology, Dr Abdullatif Al Shamsi, describes to Tony Martin the development of the institution over its quarter-century existence.



Dr Abdullatif Al Shamsi

Of the United Arab Emirates' population of some 9.5 million, something over 10% are Arab nationals. They are known as Emiratis. To protect and to promote their career and education interests, in 1988 the UAE founded the Higher Colleges of Technology (HCT) which has campuses in all seven of the constituent emirates, or principalities, of the UAE. These are Abu Dhabi, Ajman, Dubai, Fujairah, Ras al Khaimah, Sharjah and Umm al-Quwain. HCT now has over 65,000 graduates.

HCT's vice chancellor, Dr Abdullatif Al Shamsi, explains to Tony Martin how his institution has developed and adapted to cater for the rapid expansion, diversification and globalization that Emiratis have experienced since its founding.

When HCT was founded in 1988, it featured in a magazine for the Arab World that I produced. I recall that the programs were at a fairly low vocational level, including bricklaying and basic business studies. 27 years later, what have been the main changes to HCT and its program delivery? What has driven the changes?

The HCT is still an institution of vocational, higher education in that our mission is to provide young Emiratis with the skills and knowledge that are needed by business, industry and community sectors in the United Arab Emirates. That is, our programs are designed and taught with the needs and requirements of UAE's employers in mind.

The applied and vocational nature of our programs distinguish the HCT from the traditional route to higher education. This is similar to HCT's roots when it opened in 1988. However, one of the biggest influencing factors for us has been the diversification and broadening of the UAE economy into many sectors; particularly technology, communications, aeronautics, health, education and many more.

Throughout the years HCT has therefore adapted, revised or changed its academic programs to match the growing fields that make up the UAE's economy, so that we are still able to produce graduates who can gainfully enter the workforce and "hit the ground running" where they can make significant contributions to our nation.

We are therefore still delivering the same outcomes (highly skilled graduates), it is just that the means to achieve this have changed and are constantly changing, through our academic programs, with developments in the UAE economy.

We are answering the needs of employers by offering applied diplomas and bachelor's degrees for our graduates, as employers require graduates with the relevant high level of internationally recognized skills to work efficiently in this globalized economy.

Furthermore, because of the globalization of economies and our lives in general, HCT students and graduates are also wanting bachelor-level courses and qualifications so that they can compete effectively in the modern workplace.

HCT is constantly revising and reviewing our courses to ensure they are relevant to the UAE's economy and meet the demands of our nation. We are always looking to move forward and progress in all our undertakings. Hence, the HCT is renowned for being a leader in innovative, entrepreneurial and technology-driven initiatives which will help the UAE to develop a dynamic, competitive and productive knowledge-based society.

We are also seen as a national and regional leader in technology integration, mobile technologies and "anywhere, anytime" learning environments as we are constantly looking to integrate technology into our learning environments.

Technology has had a huge influence on HCT and many other higher education institutions, and education as a whole. HCT was one of the UAE's first higher education institutions to convert its campuses into fully wireless, e-Learning environments, enabling students to study and work from the ease of laptops and mobile devices. The emphasis on a technology-based

learning environment has been enhanced with the introduction of mobile applications, an Arabic language website and our students working with iPads, tablets and laptops on a daily basis.

HCT's core graduate learning outcomes include communication and information literacy; critical and creative thinking; global awareness and citizenship; technological literacy; self-management and independent learning; teamwork and leadership; vocational competencies and mathematical and English literacy.

These learning outcomes reflect HCT's philosophy to provide a holistic education to our students, so that they have the technical and innovative skills to operate in an increasingly complex technological world; the intellectual capacity to adapt to constant change; the commitment to sustainable development and the leadership potential to make the greatest possible contribution to UAE society.

The primary catalysts for HCT's continual development and review have been technology, globalization of economies and the diversification and steady growth of the UAE's economy, and the factors that are associated with it.

HCT's constitutional remit is to provide a professional and vocational education for Emiratis, stressing the ideals of productivity, self-determination and excellence. Has that remit evolved or changed over the years?

This remit is still the basis of what HCT does today; it has simply evolved and adapted to the changes in society and to the UAE's economy.

HCT was set up as a system of the highest quality that would be used to educate Nationals for the professional and technical careers necessary in a rapidly developing society and to create a new generation of work-ready graduates who contribute to the rapid growth of the economy.

The HCT model offered a new type of hands-on, or applied, education designed to appeal to young Emirati males and females, which is still in evidence today as we keep growing with over 23,000 students across our campuses spread throughout the UAE. As a result, we are the largest higher education institution in the country.

We therefore still maintain our emphasis on hands-on professional and technical careers for work-ready graduates. In order to achieve this we work closely with employers and industry leaders to formulate in-demand and relevant courses for today's world.

Our students learn in a technologically sophisticated educational environment that encourages development of independent and lifelong learning skills necessary for success in a fast changing world.

Our emphasis continues to be on student-centered, technology enabled and workplace relevant teaching-learning practices, where new skills and teaching techniques are regularly incorporated into our courses and which inspire our students to be innovative, creative and lateral thinkers.

While Emiratis are native Arabic speakers, HCT's programs are taught entirely in English whereas higher education institutions in neighboring Arab countries teach very largely in Arabic. Why is this?

When the HCT was established, it was determined that the language of instruction would be English—HCT's emphasis on preparing students for a globalized workplace.

Today, our programs are taught in English to ensure our graduates have the linguistic ability to function effectively in an international environment. English is the lingua franca of the business world and in many workspaces, so our students need to be proficient in this language. This is common in other federal universities in the UAE.

However, we are also placing an emphasis on Arabic in our teachings as we provide classes in Arabic and Emirati studies, as well as providing an Arabic-language website.

For aspiring higher education institutions around the world, international development is an important priority. What is HCT's internationalization strategy?

At present our main priority is to become the UAE's number-one ranked institution for applied and technical learning, as our mandate is to provide a high-quality post-secondary education for Emirati youth.

However, a hallmark of our emphasis on preparing students for a globalized workplace is that we leverage numerous local, regional and international collaborations. These collaborations or partnership provide students with the opportunities to become conversant with international best practices in their professions and also gain an understanding of other cultures.

These objectives are achieved through a number of avenues including the hosting of international conferences and forums across a variety of fields and sending HCT students to different countries and international institutions for work experience, study programs, field trips, exchange programs, language training and cultural visits. This way our students enjoy many beneficial interactions with international visitors, universities and organizations.

Furthermore, HCT has established active links, collaborations and relationships with major companies and organizations in the UAE and with many of the world's leading universities and organizations to ensure that

our programs and practices meet international best practices, benchmarks and accreditation standards.

There is a perception among outsiders that, because of oil and related sources of wealth, many Emiratis still do not have a strong motivation to study and succeed in a career. Is this a correct perception? If so, does HCT have a remit to address the issue at a social level?

Speaking from HCT's perspective, I can point to the large number of graduates who are working in high ranking positions locally and internationally, whether they are company executives, heads of departments, ambassadors, entrepreneurs, scientists, educators and more. They are all leaders in their own rights.

We can also point to the wide cross-section of talented students who produce world-class projects and research, such as our students who compete in a variety of local and international competitions, such as international robotics competitions, business competitions, government initiatives such as the Best Government Service Awards, Drones for Good, Model UN competitions, the annual Innovation Challenge or who simply help their local community through clubs and organizations. These students are indicative of the HCT students work are prepared to work on weekends and in their spare time, often while working and studying, to complete projects.

HCT has also introduced a requirement for all students to complete 100 hours of unpaid community service work over a four-year degree period. This is a pre-requisite for graduation and it will promote personal growth and behavioral maturity, which in turn will enhance national identity and social responsibility.

HCT is one of the largest suppliers in the UAE of graduates entering the workforce. We have awarded over 65,000 qualifications to our graduates since 1991. If you look at our corporate website there are countless stories published on a daily basis of the great achievements of our students.

To me these are not signs of laziness or lack of motivation. They are signs of innovative, motivated, passionate and engaged and dynamic students who want to make a difference to their lives and to the UAE.

We note that HCT has a much higher number of female than male students. Why is this? What are the main careers that female HCT graduates follow?

The percentage of female students to male students at the HCT campuses is approximately 60% to 40%, which replicates worldwide trends in higher education. As with many educational institutions it is a challenge to attract male students to higher education when there are jobs with organizations

such as the armed forces, police and other agencies which are highly attractive to young men.

However, HCT has a good track record with the engagement of young male students due to the hands-on nature of our programs and our mandate to develop graduates who are able to immediately enter and succeed in the workplace. We are ensuring that learning for all is fun, interactive and relevant to the current world. We are engaging with and retaining our students.

Since the time of the founder of our nation His Highness Sheikh Zayed Bin Sultan Al Nahyan, our nation's leaders have always recognized that investment in education for women is vital for the wellbeing and improvement of the UAE.

Our female students are only limited by their imagination as to what they want to study at HCT within our core academic disciplines of applied communications, business, computer information sciences, education, engineering technology, and health sciences.

They are eager to succeed and forge future careers in their chosen fields. That is why our female graduates are found in a wide variety of professions from academia and teaching, to business, science, the arts, government and many more.

HCT has proudly transformed thousands of lives, with our alumni working in all facets of UAE society where they make significant contributions.

Dr AlShamsi received his PhD in 1997 from Duke University, USA, and received his master's and bachelor's degree from Boston University. Previously, Dr AlShamsi was the managing director of the Institute of Applied Technology (IAT) for seven years, where he established Applied Technology High Schools, Fatima College for Health Sciences, and Abu Dhabi Polytechnic. Dr AlShamsi holds the rank of associate professor at the Mechanical Engineering Department at UAE University. At UAE University, he was appointed as assistant vice chancellor for research. Later, he founded a university-wide Internship and work-integrated Learning. Dr AlShamsi has more than 35 research publications in world-class scientific journals and international conferences. His latest publications are a series of books published in Arabic titled: The Make of Education.

Have Arab universities surrendered to utilitarianism?

Khalil Hindi fears for the future of the liberal arts as students flock to technology, law and business. The former president of Birzeit University tells John O'Leary that higher education must resume its civilizing mission.



Prof Khalil Hindi

Universities have a key role to play in bringing peace and prosperity to the Arab world, according to one of the region's leading academics. But Khalil Hindi, who recently completed a five-year stint as president of Birzeit University, in Palestine, worries that a utilitarian approach to higher education is destroying the subjects that could make the greatest contribution.

Professor Hindi, who has now returned to the Olayan School of Business, at the American University of Beirut, experienced the frustrations of leading a highly regarded institution in an environment of restrictions and simmering conflict. But his concerns are for lost opportunities across the Middle East, as he explained at the QS-MAPLE conference, in Doha.

"When horrific barbarism is being visited upon so many of our Arab countries, sometimes with the collusion of university graduates, it must lead us to wonder if Arab universities are relinquishing their civilizing mission," he said. "It seems the Arab public have adopted an instrumentalist attitude towards higher education. Universities are seen as places where students are provided with the skills that will stand them in good stead in the labor market. It is the image of a service sector, or a production line producing degree holders."

"Education should indeed be responsive to the needs of society but not necessarily, or even primarily, in a directly utilitarian way. If not a production line, then what is it? They are institutions whose mission is to safeguard rationality. They do it in many different ways—scientific prediction that brings improvements in disciplines of all kinds, and it does so by educating generations of young people internalizing rationality and behavior."

Professor Hindi identifies similar trends in other parts of the world, but sees particular dangers in his own region. "In our particularly unfortunate Arab circumstances where extremism is running amok and producing horrendous damage, universities' role is to inculcate reasonableness and moderation" he says. "The value of university is not so much on levels of service but the values it represents and advocates through open-minded, democratic citizenship."

Youth unemployment has been an enduring problem throughout the Middle East, helping to spark the Arab Spring. But however understandable the current reaction may be, Professor Hindi believes it is damaging for the region. "It should not mean surrender to an impoverished curriculum where technical subjects ease out the liberal arts," he says. "Indeed, even in professional degree programs, there is a need to educate with healthy provision of liberal arts, often referred to as general education."

Professor Hindi is under no illusions about the scale of opposition he faces. "On occasions when I mount a defense of liberal values, I am asked what is the purpose of them," he says. "As Kant wrote in defense of art, beautiful objects are without purpose. We need the liberal arts to see why and how."

In an increasingly complex world, he believes that a broad education is essential for future employment in any case. "The most interesting work is now interdisciplinary. What could be better than a basic familiarity with the liberal arts for moving into uncharted fields in later life? We need communication skills and a mastery of languages—especially one's own, but this is not enough to survive and prosper in the world of today. You need at least one other language, principally English. The age of globalization demands the ability to move not only within cultures but between them. This has become the defining feature of the modern age."

Instead, he sees students in the Arab region flocking to engineering, medicine or business, leaving other subjects to recruit weaker students. "This trend does not augur well for the future of our societies—we do need serious and well-endowed scholars in a range of disciplines if our societies are to enter the modern age," says Professor Hindi, who cites the overrepresentation of arts graduates in leadership positions as evidence of their value in the labor market.

"There is always a time lag in developments in the labor market," he adds. "All too often, employers deplore what they see as a failure to produce graduates who hit the ground running and start earning them money straight away. For universities to become modified training institutions would be counter-productive."

Birzeit, in the West Bank city of Ramallah, has been far from immune to the pressures he identifies. The university, which grew out of an elementary school for girls established in 1924, is the oldest in Palestine and occupies an important place in its history. A university since 1975, it was the location

for frequent protests against the Israeli authorities in the 1980s, when it was closed for lengthy periods. Now it operates under tight restrictions while remaining a center of opposition.

Professor Hindi, who completed his term as president last July, says: "Birzeit used to draw a third of its students from Gaza but they cannot come now, except on US scholarships. It is quite serious for the university because it aspires to be a national institution and would like to be representative of the whole of Palestinian society. It is also tough on the Gazans—there is so much pent-up demand for higher education."

There are perpetual financial problems, often alleviated by increasing the number of students. "Birzeit resisted this course, but the necessity of keeping its head above water meant we had to increase numbers by 1,000 and there will be another 1,000 this year—there is no problem recruiting," he says.

Professor Hindi says the universities suffer restrictions on academic freedom that are not generally recognized, such as embargoes on equipment and materials that could be used for the production of weapons. He cites the example of a modern mechatronics laboratory donated by Kuwait that was vetoed by the authorities, who ruled that components at its heart could be put to dual use. "I honestly believe that there is a policy of 'de-development' and part of that is keeping the universities just above the poverty line," he says.

"The universities are functioning reasonably well and it should be a source of pride that we have institutions such as Birzeit and others in such difficult and traumatic circumstances," Professor Hindi adds. "It is all the more remarkable because they are being built up on a voluntary basis. Birzeit has received 24 major buildings through voluntary contributions, 20 of them from individuals. We are able to get funding from philanthropists for things that are completely unglamorous, like waste treatment plants."

The university's curriculum has changed over the years, however, and three quarters of the students now take science degrees. "The liberal arts provision beat a steady retreat in front of the technical subjects," Professor Hindi says. "But we have been revising the curriculum: a majority of the faculty would like to expand the liberal arts provision, which used to distinguish Birzeit from other universities. There are two kinds of supporter: those who value the liberal arts for their civilizing role and those who believe that this would give the university a competitive advantage."

Universities in Palestine, because of the history, find it difficult to develop a wider sense of community, Professor Hindi says. "There is little interaction: they are not built on the idea of community like US schools and there tends to be top-down command. It has been one of my failures—I tried to

introduce a partially elected senate so that academics would start to own decisions. There was a lot of enthusiasm among academics but the board of trustees objected out of fear that elections might lead to strife. They thought the university was becoming politicized but I don't think there was a danger of that."

"At Birzeit there is a lot of resilience and determination to do good," Professor Hindi says. "One problem with the university—and the whole of Palestinian higher education—is a fear of academic innovation. For a very long time, the academic community was completely cut off from the world. It still is to an extent and as a result, academics who have been there for some time have developed almost a siege mentality. They are also cut off from the international academic community, and that is a serious disadvantage. As a result, they tend to be academically conservative, as well as radical leftists."

However, the university's graduates occupy leading positions in society, from politics and business to NGOs. Birzeit's graduates are employable, Professor Hindi says, but three quarters have to leave Palestine to find suitable jobs. "There is a perennial argument about whether we are doing the Palestinian cause any good by exporting talent, but their wages sustain families at home," he says.

Professor Hindi's successor, Dr Abdul Latif, has stressed the university's traditions of liberty and respect for others' opinions in an atmosphere of independence. As a serving faculty member, he has been involved in the reform program and has pledged to advance the principles of liberalism and intellectual freedom that Professor Hindi sees as the key to improvements throughout the region.

Professor Khalil Hindi describes himself as Palestinian and British. In 1962, he moved to Lebanon to take up a scholarship at the American University of Beirut (AUB). He lived for more than 30 years in England, taking an MSc and then a PhD in electrical engineering at the University of Manchester before beginning his academic career at Brunel University, where he became a professor of systems engineering. He taught at Manchester and London South Bank universities before returning to the AUB as associate dean and professor of engineering management. For several years he held professorial posts both at the AUB and Birzeit University, in Ramallah, publishing widely in engineering and management journals. He became president of Birzeit in 2010 and has been a frequent speaker at international conferences. When he completed his term of office last July, he returned again to the AUB, taking up a professorship at the Olayan School of Business. Professor Hindi was a founding member of the Board of Trustees of the Gaza Library Project and is a member of the Board of Trustees of the Institute of Palestine Studies, as well as the Palestinian Initiative for the Promotion of Global Dialogue and Democracy (Miftah).

Treading the fine line between academic freedom and security

*As the leader of a new university in rural Nigeria, **Mohammed Farouk** has to keep one eye on the threat of terrorism. But he tells John O'Leary that this should not be confused with the discussion of radical ideas on campus.*



Prof Mohammed Farouk

Mohammed Farouk faced a double challenge when he returned home to Nigeria from a professorship in the United States to become the founding vice chancellor of the Federal University of Kashere (FUK). Not only did he have to establish the first university in a rural area in the west of the country, but he had to do so in the knowledge that his institution could be in the sights of the militant Boko Haram group.

What that might mean became terrifyingly apparent last year when almost 150 students and staff at Garissa University College, in Kenya, were killed by Islamist militants. Like the Al Shabaab group which carried out that attack, Boko Haram has pledged to target Western-style education.

Professor Farouk was interviewed for QS Showcase just weeks after the Garissa attack, as he joined a conference session on radicalization. It is a topic on which he has strong views, not only because of the implications for the safety of students and staff, but also because of the implications for academic freedom and university life.

"The university is situated in a region where Boko Haram is very active, although the state is relatively peaceful compared with some of our neighbors," he says. "Security on campus is very, very important. We have metal detectors, for example, at gates and classroom entrances and we work with the security agencies, which provide us with information from time to time, mainly on cultism and criminality rather than terrorism."

But this is not security for its own sake, as far as Professor Farouk is concerned. The aim is to produce an environment in which ideas are freely discussed and tolerance is encouraged.

Professor Farouk worries that all over the world the distinction between radicalism and extremism is being blurred. "Looking back to my student days in the late 1970s, it was like a rite of passage for all students to become radicalized, whether because of issues around social justice or socio economic factors," he says. "But looking at it today, particularly in our context, radicalization is equated to terrorism, or other forms of extreme radicalization and violence."

"To me, radicalism is not a bad thing until it leads to violence. There could be a variety of reasons for students becoming radicalized. I see it more as a process when one individual or group begins to acquire ideas or aspirations that reject the status quo and other ideas in society. There is a danger in equating radicalism with terrorism."

At the same time, he sees governments exaggerating the level of threat and responding purely with militarization and heightened security to a complex problem which may have a variety of causes. "It requires universities and other individual parties and organizations to carefully study the phenomenon and try to find out the real causes, particularly of violence and terrorism," he says.

"The phenomenon may be global in nature in the way that ideas are spread through the internet, for example, but it has to be looked at in the local context," Professor Farouk says. "We have to look at each society and ask why radicalization is happening, although there are similarities across the globe in terms of its importance to governments."

He adds: "The problem comes in defining radicalism, which is a phenomenon we still don't understand fully. Universities are and have been institutions where freedom of speech is guaranteed but, given the security situations that we experience today, there is a role that universities have to play in balancing the need for academic freedom with security on campus."

That has been a priority in Kashere. "We should look at the curriculum and try at least to introduce creative pedagogies that focus on developing critical thinking skills so that students understand the diversity of ideas and try to be tolerant of different views and accept them. Whatever and however we teach our children, we have to strike that balance between protection and guaranteeing academic freedom—without being the agents of government and spying on students because that is not the role of universities. Despite the particular circumstances in Nigeria and being one of Boko Haram's potential targets, I don't feel under any pressure to do that."

Professor Farouk acknowledges that the university has to obey the law where there are cases of incitement to violence, even if the effect is to limit freedom of speech on campus. But the focus has been on criminality rather than political extremism. "In our case, there are also concerns about violence—particularly religious violence—but so far we are doing very well in that respect."

Kashere was one of six federal universities announced in 2011 to provide higher education in areas without local provision. Professor Farouk and his colleagues decided early on to involve the local communities as much as possible. "Parents were included in our activities to address cultism, which is as much of a threat as terrorism. We have worked with students on this with a variety of campaigns, using billboards and posters."

As a public university, Kashere receives directives and advice on how to increase security preparedness, as well as requests for research on terrorism. Professor Farouk says: "There are individual scholars who have a longstanding interest in the topic so we provide support for research activities because I believe this will help whole societies understand the problem and come up with more workable solutions, particularly politically."

Universities have to act responsibly, Professor Farouk says, but they are often subject to greater scrutiny than other institutions. "The entire education sector and families must play their part, raising young people with the right values and skills."

Kashere has been part of a drive by the Nigerian government to meet growing demand for higher education. Four more public universities were announced in 2015 and the private sector has also been growing rapidly. There are now 148 universities, 47 federal and 61 private, with overseas institutions also moving in from Ghana, the Ivory Coast, Botswana and Malaysia.

The aim for Kashere is to remain small in its early years, with perhaps 10,000 students, although expansion may come in 10 or 15 years because the demand for places is so high. "The change is especially strong among girls, who realize that there is a need to participate in society," Professor Farouk says. "Many parents have changed their attitude towards them and public awareness is following. Religious leaders have also understood."

The new university has 11 projects to increase the number of laboratories, hostels and lecture halls. But Professor Farouk is under no illusions about the obstacles to his eventual aim to produce a world-class institution. "The government has acknowledged the need for additional funding in the last few years' targets for federal and state higher education. A Tertiary Education Trust Fund has been established with a tax on corporations, but it still is not enough. It will take at least a decade for any Nigerian university, state or private, to be near the top in the world."

Professor Farouk believes that Nigerian universities are sometimes complacent, and that they need to be more creative in terms of their sources of funding. "They must encourage staff to apply for grants. Most tend to fail to produce applications, although we are working on that. Our vision is in 15–20 years for university to raise at least 40% of revenue from research and reduce our dependence on the state."

Kashere already partners with two universities in New Zealand and is sending students and staff there for teaching and collaborative research, especially in agriculture. There are also links with Florida International University, in Miami, where Professor Farouk spent 20 years before returning to Nigeria. He was one of three vice chancellors attracted back from overseas to launch new institutions, which were allocated the equivalent of US\$33 million in foundation grants.

The university covers all the main disciplines, but three priorities were set by government: agriculture, teacher education and entrepreneurship. To help combat a shortage of jobs for graduates, all students are going to take entrepreneurship studies and a degree program is being developed in this area. There is a focus on agriculture in a predominantly rural state, where 85% are employed on the land or in related work.

Kashere has two campuses, one of which is specifically for agriculture and covers 125 hectares, based on a former agricultural training school from the 1940s. The university had 5,000 applications for places in 2015 and responded by hiring 30 more academics. Some established universities are universities growing—perhaps too rapidly, in Professor Farouk's opinion.

Professor Farouk is determined to drive up quality at the same time as allowing for measured expansion. He told the inaugural meeting of Kashere's senate: "We must work hard to develop and institutionalize the culture of research at FUK. We must encourage and nurture the culture of research because in order to be a great teacher, one needs to be able to access and produce research. Good teaching that is informed by research results in better learning."

Professor Mohammed Kabiru Farouk El Yakub is the founding vice chancellor of the Federal University Kashere. Before his appointment in February 2011, he held a number of posts at Florida International University, in Miami, including director of the Global Awareness Programme and director of a number of degree programs. He earned his doctorate in education at West Virginia University in 1990, having taken bachelor's and master's degrees in education from Bayero University Kano, in his native Nigeria. He moved to Pittsburgh, Pennsylvania, as an educational consultant in 1990 and joined the College of Education at Florida International University as an assistant professor in the following year. Professor Farouk remains actively involved in research and scholarship. His research interests cover global education, social studies education, teacher education, curriculum studies, and comparative education. He has published widely in these areas and has presented numerous conference papers and addresses. He serves on the editorial board of a number of international journals and attracted over US\$1 million in funded research grants and contracts while at Florida International University.

Cape Town's Afropolitan mission

Max Price runs Africa's top university. He says that after 20 years, the scars of apartheid still affect everything that happens in South African education.



Dr Max Price

One thing on which all international rankings agree is that Cape Town is home to the best university in South Africa, and on the continent of Africa. The University of Cape Town is 171st in the QS World University Rankings, over 100 places ahead of the second-ranked South African institution. It is 14th in our BRICS ranking, where the second South African university is 28th. And it dominates the African placings in our World University Rankings by Subject. Here its achievements include seventh place globally for Development Studies, the highest placing in any subject for any institution in Africa.

Dr Max Price, the medical doctor and health systems expert who became vice chancellor of UCT in 2008, believes that the university's status gives it a special responsibility in Africa. The term that UCT has adopted to describe its mission is "Afropolitan." Price's definition of the term is revealing. He says: "We use the word to signal a view of Africa that sees a growing and vibrant continent, not one that sees Africa in terms of underdeveloped subsistence economies." He adds: "We also use the term to focus an African lens on global issues such as climate change, and to see the fresh elements of these problems that an African focus reveals—thus a diverse and cosmopolitan approach."

A key part of UCT's role, Price explains, is to act as an academic meeting point for South Africa, the rest of Africa, and the world. About 20% of the faculty are from outside South Africa, many from other African countries. He says that UCT has worked hard to become a destination of choice for Africans to study, especially as PhD students and postdocs. "15% of our undergraduate and 30% of the postgraduate student body is international, mainly from Africa. Of our 26,000 students, 3,500 are from elsewhere in Africa. Universities across Africa have trouble developing and attracting well-qualified academic staff. We regard it as part of our mission to help develop the next generation of the African professoriate."

Global niche player

As a global player, says Price, UCT constantly asks itself how it can compete and add value. Research with a focus on location—geographical, political,

and as part of the global south—is a key part of the answer. For example, it is ideally located for climate change research. Price says: "Cape Town is where three oceans meet [Atlantic, Indian and Southern], so it is a natural focus for research on the oceans and in the Antarctic." He adds: "It is also a great place to look at the southern sky. Most of the new SKA (Square Kilometer Array) telescope will be in South Africa and much of the communications technology involved is being developed here." In medicine, the unique combination of first world health research infrastructure with infectious disease rates and epidemiological patterns found in poor countries, position UCT to be a global leader, being, says Price, the largest recipient of National Institutes of Health grants outside of the US.

UCT's research strength allows it to attract top people from around the world. As well as astronomy and the associated big data capacity, areas of excellence include *inter alia*, catalysis in engineering, chemistry of drug discovery, biodiversity and human genetics, the latter because of Africa's unrivalled genetic diversity. Many important researchers in these fields arrived with the intention of staying five years, says Price, and are still there decades later.

Nor is this international activity all to do with science and technology. In law and the social sciences, UCT is a leader in post-conflict democratization, building on South Africa's own experience. Price says: "Many African nations are turning from military dictatorships into democracies, and thinking for the first time about issues such as constitutional rights and the tensions between these and customary law, an area where UCT has particular expertise. Research and policy on the developing cities is another field in which UCT is a leader, contributing to understanding cities in the global South. Every faculty of UCT has niches like this, where we can build continental networks that enrich global perspectives with a view from the South."

But Price is quick to add that many big challenges remain for South African higher education and for UCT. Many of them, he explains, "come under the umbrella of 'transformation,'" the remodeling of the nation since the end of apartheid. For example, only about 10% of professors across the country are South African-born and Black, although the figure is higher among more junior staff. This slow rate of change suggests that academic life has not become attractive to talented Black graduates. There are many reasons, but Price thinks change is not happening fast enough of its own accord. Universities will need to be far more assertive in recruiting and developing Black academics. On the other hand, about 65% of the UCT student body is Black, Colored or Indian. A further problem is that the university culture

is experienced by some Black staff and students as Eurocentric and non-inclusive. The curricula in many programs are criticized for ignoring African intellectuals, research and case studies and epistemic approaches.

Price is also clear that South Africa's schools, while enviable by some African standards, remain a major problem area. He says: "The school system has been one of the biggest disappointments since democracy in 1994. Although coverage is excellent, the quality of many rural and township schools is poor—with appalling infrastructure, shortages of textbooks, ineffective teachers, and some bad curriculum policy decisions. The students who make it to university are the pick of the crop, but even they are not fully prepared for university life."

The result is that in common with other South African universities, UCT has been obliged to put significant resources into development programs. This often involves extending the degree by a year with additional courses and academic skills development, as well as support for the massive social, personal and cultural adjustment required for first generation university students from poor backgrounds.

With this support, Price explains, 50–60% of these less prepared students accepted by UCT graduate, a modest result compared to the 80% for mainstream students, but well ahead of the figure for South African higher education as a whole.

Enviable autonomy

Despite these pressures, Price says that there are many strengths to the university system in South Africa. By comparison with some other countries, it has an enviable level of university autonomy. "The university's budget is one line [in the government spending announcement], so that government does not determine salaries or fees or appointments. Of course, it is not

enough to do everything we want to do. It would be tempting to allocate most of it to research since this has most impact on reputation and rankings, but we are careful to ring-fence funding for student support activity, and for scholarship that engages external communities. In addition, we have higher fees than most other universities and a higher proportion of middle-class students." That means that UCT can cross-subsidize students from less affluent backgrounds and operate a needs-blind admissions process.

One significant issue for the sector, says Price, is that the government wants more graduates, and so pushes up student numbers, resulting in the value of state funding falling by 2–3% each year in real per capita terms.

In addition, there is a continuing issue with the softness of the Rand on international markets. Library spending, databases, research equipment and other essentials of university life are priced in dollars, and so become steadily pricier in Rand. The weakness of the Rand also makes it hard to compete for faculty from beyond Africa, and means that the university has not prioritized study abroad for its students. But there is an upside. Price explains that most of UCT's research income arrives from abroad, for example from the EU, or the Bill and Melinda Gates Foundation. The exchange rate makes UCT a highly efficient place for them to spend their research budgets.

Dr Max Price became vice chancellor of the University of Cape Town in 2008 after two years as an independent health consultant. He was dean of the Faculty of Health Sciences at the University of the Witwatersrand from 1996 to 2006, where he spearheaded a series of transformation initiatives, including the Internal Reconciliation Commission. He has an MBBCh degree from the University of the Witwatersrand which he obtained in 1979; a BA in philosophy, politics and economics from Oxford; an MSc in community health from the London School of Hygiene and Tropical Medicine; and a diploma in occupational health from Wits.

SPECIAL FEATURES

Rankings as a catalyst

By Dr Kevin Downing

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Introduction

One, often neglected “partnership” between the public and private sectors is in the area of rankings. It is neglected because it is not seen as a voluntary partnership, with many universities resenting the intrusion of the private sector into an area that many academics suggest they do not fully understand. This article argues that despite this, rankings are an example of a successful public/private “partnership” and that this partnership will continue to drive positive improvements in higher education, which

ultimately benefit stakeholders, not least students. Inevitably, given the increasingly global nature of higher education, academics enjoy debating the nature and validity of rankings for higher education institutions (Brooks, 2005; Dill and Soo, 2005; Altbach, 2006, 2010). Most evidence, presented in favor of one or other viewpoint or ranking system, has concentrated on the validity of the ranking processes or criteria and, with a few exceptions (Marginson, 2007), has ignored the question of whether ranking in general is of some benefit in the global higher education sector. However, there is another more positive approach to rankings which argues that whilst ranking systems might not always be objective or fair, they can be an excellent way to drive positive changes within institutions that will eventually benefit both students and faculty.

Rankings and the “consumer”

Regardless of their controversial nature, global university rankings are a reality, and are already exerting substantial influence on the development of higher education across the world (Marginson and van der Wende, 2007). Three ranking systems are currently in positions of relative global dominance in the English speaking world. The oldest system, by one year, is that prepared by the Shanghai Jiao Tong University (SJTU) which was first issued in 2003, with the QS World University Rankings published by QS Quacquarelli Symonds (QS), now in their twelfth year, first being published in 2004. In 2010, the Times Higher Education also launched a world university ranking system, having separated from seven-years of collaboration with QS, to produce the third global university ranking

offering. These global rankings constitute what has become known as “The Big Three”. These three ranking systems recognize the growing impact of the global environment on national higher education systems and individual institutions, and the importance placed on some means of identifying institutional excellence by prospective “consumers”. Some of these consumers have the advantage of government-funded or subsidized opportunities to access higher education, whilst others will be investing their own funds to obtain the best education possible for themselves or, more likely, their offspring.

In almost every walk of life we can make informed choices because we are provided with appropriate ways of assessing the quality of what we purchase, and consequently narrowing down the choice of products we wish to investigate further. However, for government-funded higher education, the currency consumers use is usually the perceived quality of secondary education and subsequent achievements (usually via final secondary exit examination grades), and it is only natural that these consumers, and their parents, want to make the right choices amongst a bewilderingly large and globally diverse group of offerings. Very broadly, the advent of rankings has enabled these individuals to access information about an institution as a whole that will assist with that choice. Whilst it might not always provide detailed information about the particular strengths and weaknesses of the disciplines and departments encompassed within any given higher education institution, at undergraduate level it is often the reputation and ranking of the higher education institution that will encourage further investigation. In fact, outside of academic circles (and in some cases inside as well) the strengths and weaknesses of particular departments or disciplines within an institution are often ignored in favor of recognizing that someone has a degree from a widely acknowledged and traditionally prestigious institution. Academics, students, their parents and employers recognize this, and as students become more globally mobile, the reputation of any higher education institution in terms of its standing or ranking comparative to others, will continue to grow in importance.

Limitations to ranking practices

Taking the QS World University Rankings (QS WUR) as an example of a more holistic ranking than its Shanghai Jiao Tong counterpart, which will be regarded by some as limited in scope by its focus on research, it is relatively easy to criticize the ranking process in terms of both the criteria

used and the relative weightings of these. For example, 40% of the QS ranking is based upon a reputational survey of international academic opinion and the results from these criteria probably roughly indicate the existing market position of the institution, rather than its particular merits. In terms of indicators of internationalization, 5% of the ranking is based upon the proportion of international students and 5% on the proportion of international staff. As such Marginson (2007) is right to point out that this is probably, in many cases, an indicator of the success of a university's marketing division, rather than its researchers. This criticism is further supported by the fact that only 20% of the QS WUR criteria is derived from research papers and citations. The remaining 30% of the ranking score is made up of faculty-student ratio (20%) and employer review (10%). Accepting that faculty-student ratio is not a particularly sophisticated indicator of learning and teaching quality, it is nonetheless an attempt in a large and wide-ranging survey to obtain some measure of the contact students might have with their academic mentors. Employer review is also a reasonable recognition of something that academics are often too ready to forget, that the majority of their students will probably be seeking employment after graduation rather than aspiring to careers as academics. Therefore, these criteria are more closely related to graduate employability and work-readiness than academic strength, and in particular the ability to work effectively in a multi-cultural team, to deliver presentations, and to manage people and projects.

Commoditization vs healthy competition

To some these global rankings are an indicator that higher education is being turned into a commodity, with a menu of "fast" options emerging from the sectorization of institutions both within their own countries and globally. However, it is important to realize that this sectorization of institutions from high-end research intensive universities, to those who specialize largely in learning and teaching without much emphasis on research output, has been encouraged by governments around the world for many years, and certainly long before the advent of the major global ranking systems discussed in this article. In some ways, the ranking systems can help those, often younger institutions with a rapidly developing research base, demonstrate that they are evolving and changing in ways which require their governments and funding bodies to reassess the identified national role. In fact, this is the area where it could be expected that rankings will continue to exert positive influence. For example, if the same institutions remain in the top 100 or so, year after year with few newcomers, that would suggest that either the ranking system does not have sufficient discriminative validity, or that universities are complacent about their global role and practice. We live in societies where competition is generally regarded as a necessity in order to drive progress, and to continuously improve both the quality of products and the efficiency with which they are produced. Is higher education so different or remote from the real world that we are justified in arguing that we should not be subjected to these universal forces? Of course not, in fact research has been

driven by competition for hundreds of years and mankind has nonetheless managed to innovate and thrive.

Rankings as a catalyst for better higher education institutions

Having argued the case that global rankings are probably here to stay, and considered just a few of the failings of these, and some of the possible negative influences they could exert on global higher education, it is now time to turn to the positive aspects of rankings for the higher education institutions themselves, and suggest some strategic actions that ambitious universities might take to improve and evidence the quality of the learning experience for their students, increase the quality of their research output, attract top researchers, and potentially improve funding streams. At an institutional level, rankings can help focus the minds of faculty on the core business of teaching, research and knowledge transfer, particularly if senior management identifies a clear set of goals in relation to the ranking criteria. At its most basic level, this can simply involve recognition that at a particular stage in a higher education institution's development, it is no longer an issue of researchers producing papers, but more a question of the quality of the papers produced and the journals in which they are published. This can lead to institutions and departments/disciplines targeting a particular segment of journals for particular academic grades to publish in. This ensures that faculty members are provided with a clear idea of what is expected of them in relation to their grade, and what some of the criteria related to research and publication might be for promotion.

Institutional rank aside, examining ranking criteria can help an institution focus on some crucial areas of practice, and identify appropriate benchmarks in line with their institutional aspirations. For example, the QS rankings identify faculty: student ratio as a very crude indicator of teaching quality and this has sparked debate at many universities about how to break down this very broad indicator into something which can be of direct benefit to the learning environment. Many higher education institutions currently rely largely on student feedback questionnaires to evidence quality teaching, and compare scores across departments and disciplines. These typically invoke considerable debate within higher education institutions, with those faculty who achieve good student feedback ratings generally extolling the virtues of the system, and those who do not, coming up with a range of, sometimes legitimate, reasons why they are inaccurate or simply a measure of a teacher's popularity. At City University of Hong Kong, the debate about the validity of student feedback questionnaires had continued for many years with little hope of consensus. However, the advent of evidence-based competitive bidding for government funding in the Hong Kong sector, and the early realization that we were, like it or not, being ranked by independent external bodies, provided additional impetus for a radical and wide-ranging look at not only how we assess the quality of our learning environment, but also how we encourage continuous developments and improvements which benefit our students. Whilst there are clearly a number of qualitative indicators

that can be and are used to assess quality, quantitative factors remain a useful tool in terms of institutional management because, interpreted responsibly, they provide “hard” data by which to assess progress towards strategic goals. One glaring factor to emerge from this debate was a general lack of clear and reasonably objective performance indicators upon which the majority of faculty could agree, and which might be used to channel funding for learning and teaching improvements to areas of potential or proven excellence.

Benchmarking and the creation of comparative metrics

The rankings have provided a timely catalyst for higher education institutions to identify and engage in comprehensive benchmarking exercises against institutions, sometimes with a higher ranking overall or on selected criteria, providing some fascinating insights into how global peers have tackled certain key issues. Consequently, many higher education institutions are beginning to develop their own systems for assessing the quality of learning and teaching at a departmental level, which incorporates the best of the observed global practices, whilst ensuring these meet particular local and regional requirements. Theoretically, this poses a problem for some who suggest that this might lead to a future lack of differentiation in higher education systems around the world as they copy best practices from one another. In practice, it can be argued that this is unlikely because universities will always interpret best practice in terms of their local and regional requirements and contexts. For example, many universities will have a strong community role which is central to their performance assessment and this will inevitably differ from one location to another.

The use of more comprehensive benchmarking, encouraged by the various rankings criteria, provides a starting point for evidenced-based institutional improvements, and a more thorough understanding of an institution's role against a wider backdrop of similar institutions elsewhere in the world. It also encourages those higher education institutions which do not typically evidence their performance in certain key areas of practice to consider not only who they are within their local and regional context, but also how they might demonstrate that they are developing and improving. Within institutions, this requires encouraging faculty to both collaborate and compete with each other to help the institution achieve a level of excellence and adhere to its strategic goals.

The post-ranking rise of performance indicators

This approach involves identifying clear, agreed quantitative performance indicators for the core areas of business (e.g. research, learning and teaching, knowledge transfer, community etc). Within higher education institutions, the identification of appropriate performance indicators for core tasks in line with strategy allows for better management of

performance at departmental level. Institutional research offices can then prepare annual “growth charts” with selected indicators which allow departments within a discipline or college to be compared in terms of the chosen criteria. These charts can then be used as a basis for more evidence-based allocation of funding at annual budget hearings and funding allocation meetings. They can also be used to compare the performance of departments (and potentially their leadership and faculty) in line with the defined institutional and departmental/college based strategies. Metrics like these alert senior management to departments where performance is not optimized so that appropriate steps can be taken to identify and rectify the problem(s). Essentially, departments can then be graded within the institution in terms of the core area being assessed, whether this is research, knowledge transfer or learning and teaching. It might be the case that one department does not perform well on some indicators but this might be as a result of its discipline or role. For example, one might expect that a local social work department might not attract many international students, or that a largely learning and teaching-focused department with a strong community role might not be too interested in outbound student exchange numbers. There might be good strategic reasons for strategic departmental differences within the institution so the performance of any particular department might be regarded as exemplary despite a lower score than other departments in the same college in terms of research or knowledge transfer. Equally, some disciplines might not be suited to some indicators for a range of reasons in which case indicators can be adapted and weighted accordingly. Consequently, any metrics model must be flexible and capable of being adapted to fit to a wide range of disciplines and contexts. Therefore, by adapting and using performance indicators wisely and fairly, universities can ensure that they stay on their chosen strategic course, and, perhaps just as important in today's metrics-conscious environment, they can evidence their progress.

Conclusion

This article has considered an often neglected aspect of the new rankings culture, namely the benefits individual institutions can gain from the ranking concept. A fairly pragmatic view has been taken which acknowledges that rankings are here to stay, and have in fact been with us long before the advent of the Shanghai Jiaotong or QS rankings. Are rankings propelling us towards the commoditization of higher education institutions and their offerings, or merely providing at least some comparative measures of an institution's global standing and a catalyst for further healthy competition? Whatever the answer to this question, there can be no doubt that the notion of a “world-class university” is becoming ever more important to governments, employers, investors, alumni, students, parents and institutions themselves and, without some sort of measurement, it is difficult to identify which universities may qualify today, and how those institutions with real ambition might qualify tomorrow. Reputation alone is a recipe for stagnation and avoidance of healthy competition, and encourages potentially biased self-justification.

All rankings inevitably invite criticism (Downing, 2012) and it is often easier to concentrate on what is wrong with them, than try to identify how they might be used to bring about practical positive strategic change which will benefit all stakeholders, not least the ultimate product of our endeavors, the quality of our graduates and our research output. The author believes that rankings have encouraged many institutions to take a new approach which concentrates on analyzing and identifying appropriate performance indicators (in consultation with all stakeholders) which provide evidence of improvements to the core activities of learning and teaching, research and knowledge transfer. Consequently, rankings have helped create a global environment where it is now easier to make and evidence real and positive qualitative improvements in these areas. If the result of these improvements is a significant rise in the institutions score on one or more of the ranking criteria then that should be regarded as a bonus. Rankings do provide reasonable, broadly comparative measures of an institution's global standing and can be used to help foster healthy competition amongst the best universities. They are also useful self-evaluation tools which enable universities to appropriately benchmark and bring about positive strategic change which ultimately benefits all stakeholders, not least students.

The author takes the view that there is room for many types of ranking systems and criteria but, as interest in rankings rises around the globe, the stakes are inevitably raised for those charged with running universities. Rankings can and do impact on global reputation, as well as attempt to measure it in one form or another, and few can ignore the potential

impact of an institution's reputation on a graduate's ability to get a job or be accepted for postgraduate study at a top university. An institution's global ranking can also impact on its ability to lobby for funding, form strategic partnerships, recruit quality international faculty, and attract internationally mobile students, so it is little wonder that so many heads of institutions take such an interest in both the annual results of, and methodology behind, the various rankings systems.

Dr Kevin Downing is secretary to council and director knowledge, enterprise and analysis at City University of Hong Kong. He is a member of the QS International Academic Advisory Board on Rankings, and chair of the QS-MAPLE (Middle East and Africa Professional Leaders in Education) Academic Committee. He is a globally recognized expert in strategy and rankings alignment with over a decade of experience in helping universities maximize their strategy and rankings potential. In addition to helping his own institution rise from 198th place in the QS WUR in 2004 to 57th place in 2015, his portfolios have included internationalization, strategic and academic planning and founding the first Institutional Analysis team at a Hong Kong university. Dr Downing is a chartered psychologist and chartered scientist with a current license to practice, and associate fellow of the British Psychological Society with wide international experience including senior academic and administrative posts in Europe and Asia. He is editor-in chief of the prestigious scholarly journal Educational Studies, which is listed in SCOPUS. His substantial published work centers on psychology, rankings, education management and metrics, and metacognitive development.

SOMEWHERE IT IS SAID (or maybe I was dreaming): Happiness is the grave of creativity. Thanks to my dramatic life and constant frustration, I have been very creative these days.

Yin Yue – Facebook

The arts, disruption, marginality: education for the global creative economy

By Prof James S Moy
Dean of College of The Arts
University of South Florida



Of late, tertiary education has tended to draw a tight focus on STEM (science, technology, engineering, and mathematics) subjects both for research and teaching. Within this context, the STEM Education Coalition has worked to inform the American "federal and state policymakers on the critical role that science, technology, engineering, and mathematics (STEM) education plays in US competitiveness and future economic prosperity. This inspired the US President to declare: "The Obama Administration stands committed to providing students at every level with the skills they need to excel in the

highly paid, highly rewarding fields of science, technology, engineering, and math (STEM)."

This caused many of America's global competitors to similarly focus special attention to STEM subjects. This global trajectory, then, informed by a desire to be sustainable and economically competitive with the US, has witnessed the concentration of educational funding into STEM areas, often to the exclusion of non-STEM subjects. England, for example, choosing to direct resources to STEM areas, recently de-funded the arts, humanities, and social sciences across its universities. Likewise, in just the past few months, Japan's education ministry instructed all of that country's national universities to take "active steps to abolish [social science and humanities] organizations or to convert them to serve areas that better meet society's needs". Whilst many of Japan's 60 national universities expressed intention to resist the government order, already 26 have confirmed that they will either close or scale back their relevant faculties.

The thinking, of course, is that STEM sectors are core to future business success and the national interests. The Higher Education Funding Council of England's (HEFCE) defunding the social sciences, humanities and the arts, coupled with decisions in America and Japan to concentrate funding on STEM subjects and eliminate liberal arts programs, present a significant challenge to the future of higher education in the global context.

Great institutions of higher learning recognize the strengths that emerge out of unexpected synergies, and indeed seek to nurture these tendencies. I shall point to a few trajectories that suggest institutions imperil their educational enterprises if they defund or ignore the arts. Indeed, I suggest that the arts, with their singular, curiosity inspired, obsessive practices directed towards the margins, inhabit the very place/space where critical, potentially transformational, or disruptive, new practices most likely will emerge.



School of Theatre and Dance, University of South Florida



Orchestra at the School of Music, University of South Florida

Sometimes dismissed as a non-essential aspect of GDP, I hasten to remind that in 2012, the US Bureau of Economic Analysis (BEA) and the NEA (National Endowment for the Arts) released a report noting “4.32%—or US\$698 Billion—of current-dollar GDP in 2011 was attributable to arts and culture.” In comparison, BEA’s estimated value of US construction was 2.8% of GDP (US\$586.7 billion) whilst transportation and warehousing came in at US\$464.1 billion. “The non-profit arts industry alone generates US\$135.2 billion in economic activity and supports 4.13 million full-time jobs. Last year’s (2014) Federal Arts appropriation was US\$146 million, but the creative industries returned US\$9.59 Billion to the federal government in income taxes. America’s arts and entertainment are also leading exports with estimates of more than US\$30 billion annually in overseas sales. Still, despite the high value ROI attributable to “arts and culture,” in the consciousness of many, the sector remains characterized as “marginal.” But, marginality is intriguing to me.

Clayton Christensen reminds us that disruptive innovations (or technologies), those launch points for new, transformational business trajectories, usually are to be found in sectors that we consider marginal. Here, Christensen defines the “marginal” sectors as those which the business community chose to not defend because higher profits can be had elsewhere. He cites the example of the low-grade re-bar manufacture that American steel makers gave up to concentrate on higher value sheet steel production; or, the willingness of American auto makers to yield the small economy car market to the Japanese. We now know that in both cases, the low-end innovators rapidly ascended the value chain to achieve what we today might call dominant industry positions within their respective sectors. In both of these cases, success was achieved through a singular focus on the marginal sector being invaded, almost a sort of obsessive practice. Malcolm Gladwell (*Tipping Point*) substantiates the dream of a small combatant who does not understand that he is expected to lose in the face of an immense competitor. Gladwell’s underdog, whose disadvantages prove to be an important strength resulting from years of

practice and strategic asymmetry, provides a useful model. As ultimately Gladwell maintains Goliath (ground infantry) did not have a chance against David and his sling (artillery).

Further, Gladwell (*Outliers*) posits the notion that genius is achieved through continued obsessive practice, the pursuit of a trajectory with a singularity of purpose. Indeed, he boldly suggests that an individual focusing on a singular practice in any subject for some 10,000 hours will have achieved genius status in his chosen field. The arts, of course, are all about obsessive practices, usually consciously directed at creating new entirely novel, unique expressive outcomes. By definition, then, the arts are focused on the new. Toward this end a violinist or a painter will work on her artistic expression for five, six, seven hours on end, every day. She practices not to endlessly replicate an old piece of expression (a CD could do this without any effort at all), but to perfect, then transcend the work of her predecessor. The dream, the vision, then, is always to exceed the moment to drive toward that constantly receding horizon of expectations, of desire. Certainly, the conservatory continues, but the vital new expressions of tomorrow are continuously emergent, as the artist works.

Then, again, there is the romantic notion of the artist as a profoundly alienated individual whose perspective on the world will always be outside the accepted norms. Outliers and artists are often identified as dreamers whose inspirations come from some extra ordinary place—the imagination. And, this place, apart from the ordinary, marks the difference between what artists do and standard practice in most other sectors.

Can the arts enhance STEM, business, and industry?

At a recent faculty of business discussion, a constant refrain was heard: “we must teach them to dream . . . to be innovative and creative.” I found this somewhat puzzling: as if like programmed marketing or buying, it was felt that creativity could be somehow reduced to an algorithm or a mark-up language; a bit like learning which box to tick off in a multiple-choice exam? At many engineering and business college convenings, it is now commonplace to witness demonstrations of the “creative” abilities of their structural engineers and accountancy students. These often feature singing and instrumental play. Needless to say, these sometimes amateurish efforts are applauded by their colleagues as they congratulate themselves on their creativity. The Shanghai Business School publishes a catalogue of art work produced by their faculty (and, many of the catalogue items demonstrate real talent). And, yes, indeed, Richard Feynman (physicist – quantum mechanics) played saxophone.

Practice-based studio arts (piano, ballet, printmaking, narrative film, violin etc), when carefully planned and rehearsed, produce outcomes that often appear easy, almost effortless, to achieve. For this reason, audience members come to believe that anyone can do it. In the “commodity-consumer mentality” of today, then, there is a tendency to reduce creative

outputs to simple action that anyone can achieve. Hence the belief that a hobbyist, a dabbler can stand as a creative genius amongst his accountancy fellows. Unfortunately, this reduces artistic/creative drive to a mere box on checklist of items to acquire.

Clearly, we can see how the interest in creativity and the arts as a driver of innovation is a compelling desire waiting to be addressed. Some ten years ago, Hwang Chang-gyu, CEO of Samsung Electronics (credited with doubling semiconductor capacity every 12 months, thus superseding Gordon Moore's law of 2 years/18 months) in 2005 was quoted as saying: "If you are content with today's tech and stay there like farmers, you will be wiped out by new tech brought by nomads." Being content like a farmer was a sin in the eyes of Hwang's favorite nomad Genghis Khan, whose practice of war conquered lands (25,686 square kilometers) exceeding the combined total of Alexander the Great (11,504 square kilometers), Napoleon (3,801 Square kilometers), and Hitler (7,239 square kilometers). Genghis Khan said: "I am the punishment of God ... If you had not committed great sins, God would not have sent punishment like me upon you." These words he spoke upon the sacking of Samarkand in 1220, after which he proceeded to conquer much of Europe. Historically, then, sedentary farmers would again be swept away by the nomads.

Hwang admired the notion of a nomadic, ceaseless trajectory of innovation. The nomadic characteristic of his drive recalls the obsessive practice of artist-designers, creatives all too willing to jettison a completed project to move on to something totally different.

How, then, is this obsessive drive, this practice-driven creativity best achieved, deployed? Through hobby, design brief-based instruction, advanced practice-based studio activities, or a sort of boutique, bespoke course of education? Is creativity something that can be acquired online, a skill set that can be picked up through an online course, an item to be

checked off on a TTD list? Are some students predisposed to science, business and industry practices, whilst others are attracted to art? Is there an innate qualitative difference between the two, something imbedded within the psyche of individuals? Are some of us farmers and others nomads? Or, are we really all equally talented? Clearly, there exist differing priorities, the drive to survive, corporate self-preservation etc. All seem to mitigate against a curiosity-centered drive towards the new as we see in art practice.

Most businesses/industries slip into a sort of innovation for the protection of market share, whilst artists are prepared to just nomadically move on, once an objective has been achieved. Artists prefer the forever marginal space of the nomad, never looking back.

Way Forward

So, then, there are farmers (those who seek ways to remain static and defend their gains, their property) and there are the nomads (always moving, seeking the new, like artists). Whilst on the surface these appear to be very personal, individual traits, educational interventions do impact student outcomes. Rudolph Steiner suggested that human beings are most creative (nomadic?) at the age of five years. Subsequent to that children are schooled into practices and studies that produce increasingly narrow specialties. To the extent that by the age of eighteen, very little creative spark remains. By this point most are already pre-positioned to a life in business or industry.

Indeed, there are talented individuals who survive the 12 years of standard education with creative instincts, curiosity, and intuition intact. That said, then, one of the most challenging tasks of art education is the need to help many students unlearn the rigidly taught protocols that have defined and limited their lives during the preceding ten years.

Clearly, flexibility deployed through a broad range of options is essential as the trajectories of our graduates cannot be foretold. Orthodoxy and intolerance within academia define the fastest path to obsolescence and irrelevancy. Accordingly, with innovation as core driver, many arts faculties have engaged significant research connecting medicine, engineering, CS, EE, material sciences, marine biology and psychic health. The arts deploy the kind of transdisciplinary sensibility that is essential to survival in the 21st Century. It is said that the internet transmits in excess of 10 exabytes per second. Because the total sum of printed knowledge of the world can fit into 5 exabytes, we are left to ponder what might we do with the remaining minute. As the world shifts from simple bilateral to complex multilateral political relationships, the 21st century will prove to be an era of immense uncertainty. Advances in technology, shifts in geopolitical power, social networking, quantum computing, radical repositioning of financial markets, and the reordering of global imperatives, guarantee but one future: a future dominated by massive change without end.



Two students at the School of Architecture and Community Design, University of South Florida

Universities, then, must produce socially responsible graduates who can engage the nomadic, ever-evolving world that awaits them with optimism and an understanding of the interconnectedness of all aspects of the human enterprise.

All are aware that innovation never takes place in the center, but does so always in the margins. Accordingly, education theorists like Sir Ken Robinson and Lou Aronica, Fareed Zakaria, Arvind Gupta, and many others have tried to devise ways of infusing marginal practices into the standard educational process to produce creative schools. And, this may be a way forward.

Liberal education exposure to the arts help future business and industry officials to appreciate the contributions that might be made to their work. And, many have spoken of the “generalist designer” who is not confined to boundaries of a single discipline. Another way forward might involve the creation of embedded artists/humanities members into work groups. This approach is already deployed in many research institutes where hard science project now include sociologists, humanists, and artists amongst its team members.

Finally, then, to be marginal is desirable; as more than anything the arts flourish on the margins, the arts aim to be on the cutting edge of the new expressions, in those places of rupture that give rise to new trajectories. So, like former Samsung President, Hwang Chang-gyu, tertiary education must accept the nomad. Embrace the obsessive practices that artists deploy, enjoy the chaos. And, then, marvel at the new trajectories that will emerge.

James S Moy, PhD, currently serves as dean of the College of The Arts at the University of South Florida. A graduate of the University of Illinois at Chicago with a bachelor's degree in art and a master's degree in theater, Dean Moy earned his PhD in cultural studies at the University of Illinois at Urbana-Champaign. Prior to his tenure at Nova Scotia College of Art and Design, Dr Moy was dean and professor in the Faculty of Art at the Ontario College of Art and Design in Toronto and earlier served as dean and professor in the School of Creative Media of the City University of Hong Kong. He also served as dean of the College of Fine Arts at the University of New Mexico, and chair and professor in the Department of Theatre and Drama at the University of Wisconsin-Madison. Dr Moy has taught at the University of Texas at Austin, Northwestern University, and the University of Oregon.

QS Asia's 2015 – a calendar full of cracking conferences!

By **Tony Martin**

Former Vice President

QS Quacquarelli Symonds



QS Quacquarelli Symonds' university focused, Singapore-based operation is QS Asia, headed by the indefatigable Mandy Mok and run by a team of highly skilled—and highly traveled—professionals.

Renowned for its ability to bring university leaders together on the right topic, in the right place and at the right time, in 2015 QS Asia organized no less than 12 important international education meetings in 11 countries on three continents. All had university internationalization and performance improvement at their core.

Each meeting was tailored to the state of higher education development of a region or country, to a priority of university management, or to a particular academic area. Some, such as 11th QS-APPLE and 5th QS-MAPLE, were the annual editions of major global international education conferences. Others, including the QS Xchange series, were bespoke meetings addressing the current needs of individual markets.

Indicative of QS Asia's highly effective delivery of partnership, every event is organized in collaboration with a major university partner. Some are top world ranked universities such as Nanyang Technological University and Osaka University. Others, such as University of Malaya, Qatar University and Lobachevsky State University of Nizhny Novgorod, are top institutions in their country or region.

Partnering with QS Asia brings significant benefits to a university's senior managers. First and foremost, their minds are broadened from the experience of QS Asia's deep capacity for positive intellectual engagement beyond academic realms. Secondly, through the intensive marketing of each event and its association with it, the partner university gains huge exposure for its name and profile. Additionally, from QS Asia's capacity to run meetings in a highly professional, socially relaxed manner, the university's reputation is enhanced among the participating delegates and those that read the post-event reports.

This review of QS Asia's busy 2015 describes the essence of each event.

QS Asia events in 2015

February

QS IN CONVERSATION – INDIA
with Amity University

March

8th QS WORLDCLASS – THAILAND
with Mahasarakham University

May

5th QS-MAPLE – QATAR
with Qatar University

June

QS SUBJECT FOCUS SUMMIT – SINGAPORE
with Nanyang Technological University

QS XCHANGE – KAZAKHSTAN

with Asfendiyarov Kazakh National Medical University

July

QS XCHANGE – JAPAN
with Rikkyo University and Osaka University

August

QS XCHANGE – SOUTH AFRICA
with Nelson Mandela Metropolitan University Business School

September

QS XCHANGE – THAILAND
with Thailand Association of Governing Boards of Universities and Colleges

QS WORLDWIDE – RUSSIA

with Lobachevsky State University of Nizhny Novgorod

November

11th QS-APPLE – AUSTRALIA
with RMIT University

December

QS SUMMER SCHOOL SUMMIT – MALAYSIA
with University of Malaya

QS IN CONVERSATION – INDIA

QS in conversation is a seminar series, presenting best practice and strategic advice to universities that are seeking to internationalize and achieve global recognition.

The unique nature of *QS in conversation* is its fluidity of concept and its detachment from particular regions. Each seminar can be geared towards important topics dedicated to the better understanding of the higher education in that region or country.

Over 250 delegates convened in Delhi for the first *QS in conversation* to be held in India. Attended by union minister for science and technology and for earth sciences, Dr Harsh Vardhan, keynote speaker was director of Indian Space Research Organisation (ISRO) Satellite Centre, Dr S K Shivkumar, who was a senior scientist for the recent Indian Mars mission.

The meeting was hosted on its Noida campus by Amity University, the organizing partner. Amity University is a leading private research university with many campuses in India and abroad.

Delegates welcomed the value of the meeting. Here are some of their comments:

***"QS in conversation* provides a great platform for all the universities and other academia to interact with each other; great job!"** – Dr Neeja Mallick, People's University, Bhopal, India.

"An excellent organization of presentations from an experienced pool of experts." – Dr Krishna Kumar, IIT Kanpur, India.

***"QS in conversation* is indeed a big help for universities to collaborate and partner with one another."** – Dr Myrna P Quinto, Far Eastern University, The Philippines.

8TH QS WORLDCLASS – THAILAND

Classroom for leaders of Asian institutions

In March, the 8th *QS WorldClass* adopted an innovative theme—Higher Education, Commerce and Community: New Partnerships for Knowledge Development.

This seminar gathered university heads and industry representatives from around the globe in a world-class destination, JW Marriott Phuket Resort & Spa, Thailand. The discussions and presentations focused on the topic of university-business partnership and its effects on higher education traditions, practices and policies. They also looked at its role in business productivity and competitiveness, and its short- and long-term impacts on the regions.

The event was well received by participants. These were some of the comments:

"The experience was excellent. The venue is a peaceful place to switch one's mind from everyday tasks to global strategic thinking." – Elena Ershova, Interstate Corporation for Development, Russia.

"Having university leaders with industry leaders is a good idea." – Mostafa Salama Abdelhady, British University in Egypt, Egypt.

"The theme selected for this event is very important to the sector." – Ahmed Al-Rawahi, Chancellor, University of Nizwa, Oman.

"The purpose to attend the event is to know latest developments of education and the collaboration with industries; very well organized seminar." – Ying An, University of Science and Technology of China, China.

Countries represented at the seminar included Australia, Canada, China, Egypt, Hong Kong, Lebanon, Malaysia, Mexico, Oman, The Philippines, Russia, Singapore, South Africa, South Korea, Taiwan, Thailand, the UAE, the UK, and the USA.

27 expert speakers delivered 24 topics including eight sessions where an academic joined hands with a business partner in a co-presentation.

Having successfully piloted the new theme, *QS WorldClass* will continue to focus on the arena of industry-university collaboration.

The 9th *QS WorldClass* seminar will take place April 4–6, 2016, in Singapore, with Nanyang Technological University and University of Johannesburg combining as bi-national organizing partners.

5TH QS-MAPLE – QATAR

QS Middle East and Africa Professional Leaders in Education Conference and Exhibition

International Innovation and Co-operation in Higher Education

Addressing its theme of "International Innovation and Co-operation in Higher Education", the 5th *QS-MAPLE* concluded on May 7 in Doha, Qatar. The event was co-hosted by Qatar University and was held under the royal patronage of the Prime Minister of Qatar.

5th *QS-MAPLE* convened close to 350 academics—including university presidents, chancellors, vice chancellors and deans—from 35 countries. They represented 125 entities that included higher education institutions, government organizations and media. Their mission was to exchange valuable knowledge, learn from the discussions and presentations, and network in a relaxed setting. A total of 70 papers were presented in two days.

Joining their colleagues from the majority of Middle East and North African countries were university representatives from Australia, Austria, Brunei Darussalam, Canada, China, France, Hong Kong, India, Indonesia, Italy, Kazakhstan, Malaysia, Mexico, Netherlands, Panama, The Philippines, Russian Federation, Singapore, South Africa, Taiwan, The Netherlands, United Kingdom, United States and Vietnam.

Opening 5th QS-MAPLE, Qatar's prime minister, HE Sheikh Abdullah bin Nasser bin Khalifa Al Thani, stressed the need to build a strong scientific and research base in Qatar in its progress towards a knowledge-based economy through the cooperation of academic institutions, government and private sectors and the industry sector.

The novel QS Squared Debates have become a core element of QS Asia's major conferences by addressing important and sometimes controversial topics. Opposing expert panels led the debate and delegates actively participated by voicing their objection to or support of the contention in free and lively discussion. Each debate started and ended with an instant vote, the final one showing just how the audience's position on the topic had shifted after hearing the arguments.

5th QS-MAPLE Creative Awards were presented to the winners of five categories: corporate video, international print advertisement, international student recruitment brochure, internationally focused website and most creative exhibition booth

The 5th QS-MAPLE conference continued the altruism of QS Asia Quacquarelli Symonds by presenting US\$6,000 in scholarships to two deserving students from Qatar University.

In closing, Qatar University President Prof Sheikha Abdulla Al Misnad said "We learned that higher education is not just a matter of designing programs and building research—it is also about understanding the dictates of the development of our societies and working alongside it instead of in front of it."

The 6th QS-MAPLE conference will be held May 10–12, 2016, in Al Ain, United Arab Emirates with United Arab Emirates University (UAEU) as the organizing partner.

Enthusiastic feedback from delegates in Qatar included the following comments:

"The QS Squared debates were amazingly interactive, thanks for coming up with that!" – Mrs Fides Maria Lourdes Flores Carlos, University of Santo Tomas, The Philippines.

"QS-MAPLE never fails to give me a lifelong learning experience to realize the need for quality and excellence in international higher education...The QS

Squared debates were simply brilliant and an enlightening experience. Let us work together for this academic legacy to continue forever!" – Dr D K Giri, Swami Vivekanand Subharti University

1ST QS SUBJECT FOCUS SUMMIT – CIVIL ENGINEERING SINGAPORE

"Sincere thanks for taking the initiative to bring leaders in civil engineering education together to discuss the most significant issue facing civil engineering educators: how to attract the best students to take our global industry to the next level.

"The inspiring speakers and lively discussion at the QS Subject Focus Summit have provided direction and a supportive network for those of us leading change at an important time for our discipline."

The words of delegate Dr Mark Richardson, head of the School of Civil Engineering at University College Dublin, neatly sum up both the groundbreaking vision and the successful execution of the first QS Subject Focus Summit – Civil Engineering, held in June in partnership with Nanyang Technological University College of Engineering.

The summit's thought-provoking tracks were *Branding Civil Engineering: Rediscovering our Narrative*, and *Trends in Civil Engineering Education: Professional Orientation, and Future Directions of Civil Engineering Research and its Translation to Industry*.

The QS Subject Focus Summit series of meetings was conceived to bring top leaders from academia, business, and government together around a single subject. Each academic discipline is unique, and broad conferences cannot address the challenges that a specific discipline faces.

By providing a global forum for networking and the exchange of new ideas, the 1st QS Subject Focus Summit was able to generate a deepened understanding of the challenges and opportunities facing civil engineering.

QS Subject Focus Summits will take place every year, addressing a different academic subject each time.

QS Subject Focus Summit – Civil Engineering attracted 125 academics and industry professionals from 26 countries, representing 29 entities that included higher education institutions, government organizations and businesses.

Represented were: Australia, Belgium, Brunei Darussalam, China, Egypt, France, Germany, Hong Kong, India, Indonesia, Ireland, Japan, South Korea, Malaysia, The Netherlands, New Zealand, The Philippines, Portugal, Singapore, South Africa, Switzerland, Taiwan, Thailand, United Arab Emirates, United Kingdom and United States.

1ST QS WORLDWIDE

NIZHNY NOVGOROD, RUSSIA

New directions for Russian and Central Asian Higher Education

In September, this groundbreaking QS conference brought Russia's aspiring universities into global view. It was a historic event for Russia and marked a major milestone in the internationalization of Russian higher education.

It can be summed up in a comment from a key participant: *"I express our gratitude to QS for having organized such a wonderful QS Worldwide conference in Nizhny Novgorod. It proved to be a real success and we received nothing but positive remarks and emotions from all our colleagues. It was a real pleasure for me to participate in this amazing event and to meet such amazingly professional people from around the world."* – Anastasia Solomentseva, Moscow State Institute of International Relations (MGIMO-University), Russia.

The event was co-hosted by Lobachevsky University and strongly supported by the Russian Academic Excellence Project 5-100.

The 1st QS WORLDWIDE convened 333 academics from 32 countries and representing 118 institutions to exchange their valuable knowledge, learn from the discussions and presentations, and expand their networks within Russia and beyond. 60 papers were presented in the two days.

In attendance was the deputy minister of science and education of the Russian Federation, Mr Alexander Povalko, who gave the opening speech.

The 32 countries represented at the conference were: Afghanistan, Australia, Belgium, Brazil, Hong Kong, India, Italy, Japan, Jordan, Kazakhstan, South Korea, Lebanon, Luxembourg, Macao, Malaysia, Mexico, The Netherlands, Pakistan, The Philippines, Poland, Qatar, Russian Federation, Rwanda, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand, Turkey, United Kingdom, Uzbekistan, and Vietnam.

The first day of the conference consisted of keynote and plenary speeches delivered by higher education luminaries from around the world. The plenary sessions covered areas as diverse as success secrets of world-class universities, higher education quality assurance in Europe and the transformation of university landscape in Asia.

A highlight was a plenary panel discussion by Russian Academic Excellence Project 5-100 member universities on the best practices of the Project 5-100. The day concluded with a city tour and a memorable dinner reception at Nizhny Novgorod's historical Armorial Hall.

The second day was dedicated to parallel sessions under five main themes: 1) Internationalizing the Student Body: International Student Recruitment, Support and Exchange; 2) Internationalizing the Curriculum: Educating the Global Citizen; 3) Building World-Class Universities in Russia and Central

Asia; 4) The Global Higher Education Market: Trends, Policies and Key Developments; 5) Research and Innovation.

The closing plenary included an exclusive analysis of QS World University Rankings 2015 and QS BRICS University Rankings 2015 by Mr John O'Leary, a member of QS World University Rankings Executive Board.

Further endorsements of QS WORLDWIDE included:

"An insightful presentation on international exchanges as well as global student mobility" – Dr Youngjeen Choe, Vice President for International Affairs, Chung-Ang University, South Korea.

"The conference is organized very well" – Mr Susumu Nonaka, Professor, Saitama University, Japan.

11TH QS-APPLE – MELBOURNE, AUSTRALIA

QS Asia-Pacific Professional Leaders in Education Conference and Exhibition
New Directions in Asia-Pacific Higher Education: Challenges and Opportunities

Flagship event QS-APPLE scored yet another first in its record of innovation by bringing the Asia-Pacific higher education focus to Australia by staging its eleventh annual edition in Melbourne, co-hosted by RMIT University.

The 11th QS-APPLE attracted delegates from nearly 200 institutions in 39 countries to address the theme *New directions in Asia-Pacific higher education: Challenges and opportunities*. 72 papers were presented by 88 speakers. Selected universities also showcased their offerings in the QS Hub – Exhibition which formed the heart of the invaluable networking.

The closing plenary saw a very special guest speaker—Richard Colbeck, Australia's minister for tourism and international education, and senator for Tasmania.

A sought-after feature of QS conferences—the innovative QS Squared Debate—engaged delegates on the topic *Graduate Employment Should Be the Number One Academic and Strategic Priority for Universities*. At the start of the session, 51% supported the motion and 49% were opposed. By the end, the tables turned... supporters of the motion shrank by 10%, and those who were opposed to the motion gained the majority with 59% of the votes. The power of debate was manifested yet again.

A differentiation of this year's QS-APPLE from its predecessors was a stronger emphasis on university ranking. The conference featured a three-hour parallel session on QS's latest area of ranking, QS University Graduate Employability. As a side event, QS Top 50 Under 50 Ranking was launched at the QS Young Universities Forum on Deakin University's campus, and QS Best Student City Rankings for 2015 were announced in plenary.

During the proceedings, QS Star Rating certificates were presented to four more universities and QS Creative Awards were presented to the region's universities that excelled in their marketing communications.

As well as Australia's strong local participation, also represented at 11th QS-APPLE were Bahrain, Bangladesh, Brunei Darussalam, Canada, Chile, China, Czech Republic, Egypt, France, Germany, Hong Kong, India, Indonesia, Ireland, Japan, Jordan, Kazakhstan, South Korea, Lebanon, Macao, Malaysia, Mexico, New Zealand, Oman, The Philippines, Poland, Qatar, Russian Federation, Saudi Arabia, Singapore, South Africa, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, United Kingdom, and United States.

Prof Thomas Antony Downes, as provost and CEO of University of Reading Malaysia, represents a key element of Asia Pacific university partnership. His reflection on the event was: *"I think QS-APPLE is the leading conference in the region for educators in my position,"*

The 12th QS-APPLE conference and exhibition will be held in Kuala Lumpur, Malaysia in November 2016.

2ND QS SUMMER SCHOOL SUMMIT – KUALA LUMPUR

December saw QS Asia's final meeting of 2015. The 2nd QS Summer School Summit was held at the Grand Hyatt Hotel in Kuala Lumpur, bringing together 85 participants from 45 institutions in 19 countries. The summit offered a highly interactive format, including the summit's signature "Elevator Pitch" (an opportunity to promote a summer program in just 90 seconds). "Round Robin Chat Groups" happened for the first time, crowdsourcing and sharing knowledge and experience from all participants.

The formal part of the summit was rounded off with an engaging panel discussion that touched on, among others, the importance of maintaining academic quality control, offering a unique student experience, and future trends for summer schools.

The summit started more traditionally with a keynote address, delivered by Prof Dr Hazman Shah, deputy chief executive officer of the Malaysian Qualifications Agency (MQA). He explained his agency's interest in and support for the summer school movement, especially as a tool to ensure Malaysia has a globally competitive workforce. The Mqa is now also starting to accredit individual academic modules, offering further opportunities for summer and short-term programs to undergo quality assurance.

Other participants of the summit included representatives from brand new summer schools, such as University College London (UCL) which has its first summer school in 2016, and from much older and more established programs such as the Utrecht Summer School, which is already well past its 30th edition. This diversity in experiences is enriching, with new programs providing fresh perspectives and older programs providing insights

into how Summer Schools are constantly evolving: the summer school landscape is ever changing.

As well as its unique format, the summit also featured some unique content. A session dedicated to internships and living labs offered insight into how short-term programs can meet students' experiential learning needs, the host country Malaysia offering many excellent opportunities due to its cultural and bio-diversity. Insights into the summer school student experience were also shared during a presentation of the results of the QS Sunshine project pilot study. It appears that, while students often select programs based on their academic rigor, they most value the social aspects of the program once they are there.

Making an excellent summit unforgettable was the hospitality provided by the hosting partner, the University of Malaya – Malaysia's oldest and one of its very finest institutions of higher learning. The summit participants were treated to a tour of the university's Malay ethnography museum followed by tea with local delicacies such as "satay" (grilled meat skewers with peanut sauce) and accompanied by a performance of beautiful traditional Malay music.

New in 2015:

QS XCHANGE SEMINARS KAZAKHSTAN, JAPAN, SOUTH AFRICA AND THAILAND

With the flexibility of being held anywhere in the world, QS Xchange seminars were introduced in 2015 as bespoke one-day meetings for university international strategists. Their aim is to help develop international marketing and branding of the host universities and of their national higher education systems.

Starting in June and finishing in September, the inaugural circuit of QS Xchange seminars embraced Kazakhstan, Japan, South Africa and Thailand.

Says Mandy Mok, QS Asia's CEO and the inspiration behind the initiative: "We created QS Xchange to help our longstanding university partners to showcase themselves and their country's higher education strategies to a single host country. Representatives of the key local universities congregate to learn from their model branding and marketing stories. For a diverse range of examples, an expert from a university in a selection of countries travels to speak."

"In a nutshell, the benefits are for the host institution to learn what its international peers are doing in this area; for the travelling universities, to showcase themselves and their country to key universities in one country under one roof in one day.

"QS Xchanges cost nothing to the travelling universities. QS Asia acts pro bono for its partners to sustain and grow its deep commitment to the generation of international university cooperation."

The pioneer participants in the QS Xchange program are enthusiastic.

Francisco J Cantú-Ortiz, associate vice provost for research at Tecnológico de Monterrey, Mexico, commented: "I would like to congratulate QS Asia for taking the initiative to organize the seminar series QS Xchange which allows universities to know each other in order to establish networks of collaboration, students exchange, joint programs, and research projects and at the same time, allows them to linkages and agreements with industry and business institutions. I had the opportunity to participate at the Xchange seminars held in Japan in the summer of 2015 to present Tecnológico de Monterrey research strategy to delegates of both academia and industry, and I was very pleased with the outcomes resulting from the interaction with key contacts of Japanese universities and companies which are of mutual benefit. I thank QS Asia for leading this seminar series and I look forward to actively participating in future editions of QS Xchange".

Almaty, Kazakhstan
June
with Asfendiyarov Kazakh National Medical University

Attended by the Ministry of Education, Ministry of Health and Social Development of the Republic of Kazakhstan, the seminar was very well received by the hosts. QS Asia expert, Ms Mandy Mok, gave a presentation on "External Strategies for Marketing and Branding for Kazakh Universities".

Other notable speakers were Prof Yi-Ming Arthur Chen, vice president of Kaohsiung Medical University (Taiwan), and Mrs Winnie Eley, pro-vice-chancellor (international and advancement) at the University of Newcastle (Australia).

Tokyo, Japan
July
with Rikkyo University

This QS Xchange seminar attained special attention from the Japanese government, which was represented by the Ministry of Education's (MEXT's) Higher Education Bureau and Director-General for International Affairs. Also speaking at the seminar was the chairman of Japan's National institution for University Evaluation.

One of India's top universities—Amity University—was represented by its chancellor, Dr Atul Chauhan, who delivered a speech on "Revolution in Higher Education in India through Private Initiative".

Osaka, Japan
July
with Osaka University

The highly world-ranked Osaka University played host to QS Xchange's second Japan venue in the country's third largest city. In attendance and speaking were representatives from Bank of Mitsubishi, MEXT's Minister's Office and the president of Kwansei Gakuin University.

Dr Francisco Javier Cantú Ortiz, provost for research and entrepreneurship from Tecnológico de Monterrey (Mexico) gave a presentation on his university's experience in "strengthening worldwide academic reputation".

Port Elizabeth, South Africa
August
with Nelson Mandela Metropolitan University Business School

In conjunction with the 2015 IEASA (International Education Association of South Africa) conference, QS held a half-day Xchange seminar on the theme of creative ways to build a brand and presented successful case studies from a number of universities. Educators from India, South Korea, Malaysia, Taiwan and The Philippines shared their universities' branding stories with the audience.

Bangkok, Thailand
September
with Thailand Association of Governing Boards of Universities and Colleges

The inaugural series of QS Xchange seminars concluded with a hugely successful meeting in Thailand, which attracted high-ranking Thai government officials as well as university leaders.

Dr Chumpol Pornprapa, president of Thai Association of Governing Boards of Universities and Colleges and Dr Piniti Ratnanukool, secretary general of Commission on Higher Education gave the opening speeches. Former deputy prime minister of Thailand, Dr Somkit Chatusripitak, gave a keynote lecture on Thai Universities in Global Positioning.

Starting from his graduation from Oxford University in 1967, Tony has now retired from a career that embraced over 45 years in communications for education and careers advice and information. During the latter part of that time he provided services—events, media, and consultancy—to universities around the world, primarily supporting their international student recruitment. From 1993 his main focus was on Asia and its universities. He launched and ran postgraduate student recruitment fairs in Asia for both Nexus Education and QS and played a key role in establishing QS Asia operation centered in Singapore. The birth of QS-APPLE took him into the area of institution-to-institution dialogue in the context of higher education advancement and international collaboration.

The globally engaged civic university

By **Prof Grant Guilford**

Vice Chancellor

Victoria University of Wellington



The idea of a globally engaged civic university is enjoying a renaissance in the 21st century with the concept being reinvented by individual universities to reflect their own particular circumstances.

This vision of a global-civic university has been adopted by the university I lead, Victoria University of Wellington, and, in my view, is something to which all good universities should aspire.

Victoria was founded in 1897, in the same era as the "red brick" civic universities of England. These universities saw themselves as part of civil society and championed a tradition of civic engagement. They were established in British provincial cities, like Newcastle, Birmingham, Manchester, Leeds and Sheffield, to support the 19th century industrialization. They admitted students regardless of their religion or background and concentrated on giving them real-world, practical skills. As well as providing scientific advice and skilled labor for emerging industries, they saw a role for themselves in establishing professional schools which would contribute to the development of a healthy and cohesive society.

But their influence went further—they played a key role in the public domain by leading debate on literary, philosophical and scientific questions. The tradition they established went on to be adopted by leading universities worldwide—including the "ancient" institutions, universities like Oxford and Cambridge, that initially considered themselves beyond the ordinary concerns of their communities.

The concept is also established in the American higher education system, through the existence of land-grant colleges or institutions. These arose from states being granted federally controlled land which they could sell to raise funds to establish and endow "land-grant" colleges. Rather than the traditional focus of an abstract liberal arts curriculum, these institutions were to be focused on teaching practical disciplines such as agriculture, engineering and science in response to the industrial revolution and changing social dynamics. Among the highly esteemed institutions established on this basis are Massachusetts Institute of Technology (MIT), Cornell University and the University of California.

Today, these American universities have moved beyond their original focus to become global institutions with comprehensive programs across many disciplines. The same ethos of engagement, however, underpins their activities.

John Goddard, a former deputy vice chancellor of Newcastle University with responsibility for city and regional engagement, has written extensively on the subject of a broadly based civic university, arguing that it is time to reinvent the notion. He argues that universities should play an important role in the fortunes of their city and their country and in addressing complex, modern day environmental, health and societal challenges.

What it means to be a civic university is something we have discussed at length at Victoria. Finding our role in this context has required an examination of the meaning of "civic" which extends beyond a responsibility to an institution's immediate city, and beyond the traditional connotations the term has with industrialization in the United Kingdom.

In the case of Victoria University of Wellington, being a civic university means drawing upon the advantages and responsibilities of being located in New Zealand's capital city. This also has roots in the past—since as early as 1886 in fact—when New Zealand Premier Robert Stout argued in Parliament: "So far as Wellington is concerned, it is the seat of Parliament and the seat of the Court of Appeal. This city might be prominent for its special attention to jurisprudence, to law, to political science, to history."

Being located in the heart of the city responsible for New Zealand's decision making offers Victoria University unique opportunities. It gives our staff and students privileged access to political, public sector, legal, diplomatic, non-governmental, media, corporate and community organizations. It also means we have access to archives and national treasures, and can very readily take part in the debates that shape our country. This civic engagement provides Victoria with a means of helping to celebrate and cultivate national identity and to lead thinking on major societal and environmental issues.

Victoria Business School, for example, is situated a stone's throw from New Zealand's Houses of Parliament and the institutions where policy is developed. As such, the school is ideally positioned at the turbulent interface between town, crown and gown (commerce, the regulator, and the innovator) enabling it to play an important role in the facilitation of innovation, entrepreneurship and sustainable economic growth.



The Hunter building, the original Victoria University of Wellington building

The university's Law School is similarly situated close to the center of New Zealand's legal decision-making district, putting our staff and students at the center of debate, analysis and dialogue about law and legal policy issues in New Zealand. Our research informs thinking on the legal questions facing policy development and our teaching is important in training current and future public sector leaders.

The university's location also provides Victoria with valuable international connections and the opportunity to create bridges between communities and to influence thinking in the wider Asia-Pacific and global community. Our traditional strengths in languages and cultures, politics, international relations, history, business and law provide a platform for a range of initiatives that help to place Victoria at the forefront of national engagement with overseas partners. The New Zealand India Research Institute and the New Zealand Contemporary China Research Centre, both hosted by Victoria, are examples of Victoria's leadership in this respect.

Nevertheless, we recognize that intellectual influence doesn't come as of right. It can only be derived from the university's strengths in the relevant academic disciplines and from effective engagement with local, national and regional concerns. It requires Victoria to develop valued relationships with the public sector and the diplomatic community in Wellington while retaining the independence to speak truth to power.

The latter is important—this simple phrase captures what it means to be the critic and conscience of society, and our unique role in civil society of informing public debate and decisions through research, critical inquiry and intellectual independence. It also embodies the challenge of strengthening our relationships with the public sector and the diplomatic community while retaining the independence to engage critically with government in a non-partisan manner.

Consistent with the civic university tradition, we also engage closely with the capital city itself, embracing the endowment available to us from our

location in the heart of Wellington.

As a major employer in the city, and a significant contributor to the regional economy, Victoria has much to offer. We partner with local government and with many of the national institutions based in the capital city. Industry and business contribute to our teaching programs and benefit from having some of our brightest students complete internships and join their enterprises once they graduate. Many of our academics carry out targeted research that helps to address the issues industry and business are grappling with, and take advantage of the opportunities that lie ahead in their sectors.

Flowing from our positioning as New Zealand's globally ranked capital city university, Victoria has—together with its city—chosen a cluster of related multidisciplinary research and teaching themes focused on societal outcomes. These themes reach across the university and provide strategic emphasis. They include: advancing better government; cultivating creative capital; spearheading our digital futures; enabling our Asia-Pacific trading nation; stimulating a design-led high-value manufacturing region; enhancing the resilience and sustainability of our natural heritage and capital; improving health and wellbeing in our communities; enriching national culture, and civil society and global citizenship.

These areas of academic distinctiveness reflect what Victoria is already very good at and also the priorities of our city and our wider region—the Asia-Pacific. This is the region of the world that sustains the university, its staff and students, and that increasingly defines its institutional identity and future. We wish to employ our international leadership in these areas of emphasis for the benefit of the region, helping to bind the global to the local and the local to the global.

That is what a great global-civic university does.

Professor Guilford has been vice chancellor of Victoria University of Wellington since March 2014. He came to Victoria from the University of Auckland, where he was the dean of the Faculty of Science and a member of the senior management team of the university. He has led other large and complex academic organizations, beginning with the Institute of Veterinary, Animal and Biomedical Sciences at Massey University. Earlier in his career, Professor Guilford undertook teaching, research, clinical and leadership roles at the University of Missouri, the University of California, Davis, and Massey University. His focus shifted to academic leadership and roles in that field have given him in-depth experience of university strategy, policy, financial and operational management and led to many successful collaborative and philanthropic ventures. Professor Guilford has held positions on the boards of several companies, including New Zealand Genomics Limited, research consortia, joint venture entities, centers of research excellence, including the Maurice Wilkins Centre for Molecular Biodiscovery, and the crown research institute Landcare Research Limited.

It is time for bold leadership on China linkages

By **Laurie Pearcey**

*Director of China Strategy and Development
University of New South Wales*



It seems these days that if a butterfly flaps its wings in China, mighty tornados will ensue throughout the corridors of power of many a university.

The recent turbulence on Chinese equity markets must have sent shivers down the spines of presidents and vice chancellors that have become so dependent on literally hundreds of thousands of full-fee paying Chinese students.

With images of newly minted members of China's middle classes watching stock market tickers with horror as the value of their investments evaporate beam across television screens, many universities must be thinking if this will damage China's proven capacity to pay top dollar for foreign degrees.

My own instinctive reaction to the recent volatility is quite different.

Uncertainty on Chinese capital markets and in the broader Chinese economy is unequivocally good for outbound capital flows and this includes education.

Take the property market as an example. Two years ago, China's leadership sought to put downward pressure on property prices to address a massive affordability challenge, house prices have consistently declined.

All of this has encouraged further investment in foreign real estate and consequently driven up prices in key offshore markets.

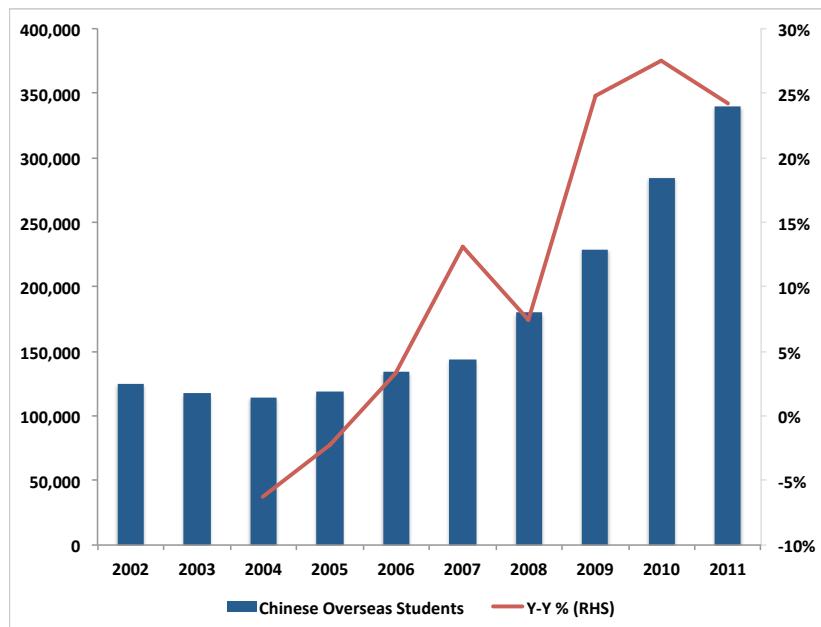
Australia has acutely felt the effects of this and has recorded a 60% increase in Chinese property investment with Chinese investors pumping \$8 billion over the past twelve months. This has taken place against the backdrop of a continued contraction in Chinese property prices.

Xi Jinping's crusade against corruption is also driving massive capital flows offshore as literally tens of thousands of officials and tens of millions of Communist Party members seek a safe haven for their families should Xi's crack squads come knocking. Sending children to university overseas is a big part of this equation.

Political, social and economic uncertainty drives people and capital flows offshore.

Call it crude, but the longer China's cities grapple with pollution, the more Xi Jinping pursues corrupt officials, the more Chinese property prices depreciate and the more volatility plagues equity markets—the more foreign universities can rely on large Chinese student cohorts.

This underscores just how problematic, how fragile and how unsustainable the current balance is. Yet China is fundamentally in transition and in the not too distant future, the market forces underpinning this business model will demand a serious test of leadership from our universities.



Chinese Students Overseas 2002–2011

Source: *China Statistical Yearbook* (2012)

China's New Normal – we had better get used to it

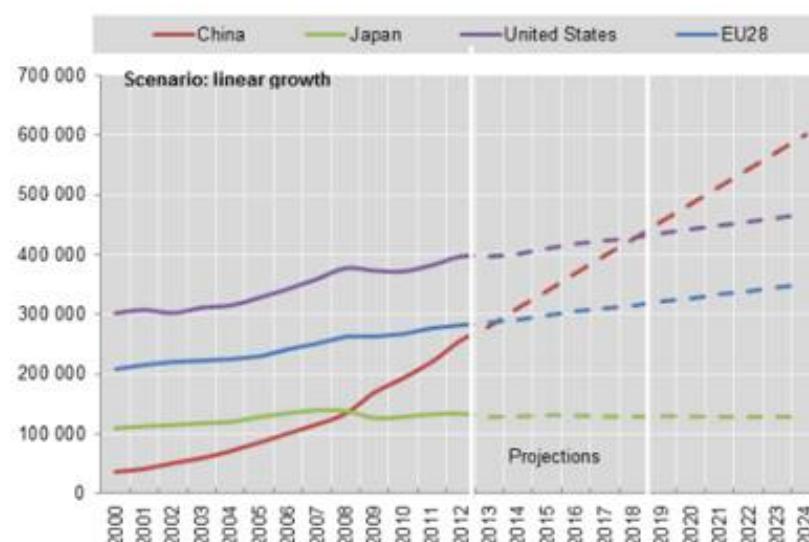
In June 2015, a different kind of butterfly flapped its wings when for the first time, there were more Chinese universities than Japanese institutions in the Times Asia Top 100.

These are some early fruits of China's massive investment in higher education and there will be more to come. We are deluding ourselves if we do not treat this as a direct challenge to the competitiveness of traditional players everywhere.

China has embarked on the largest investment in research and development in human history, and the OECD forecasts China will overtake the US as the world's largest spender on science and technology by the end of the decade.

China poised to outpace the US in R&D spending around 2019

GERD, millions of 2005 USD PPP, 2000-12 and projections to 2024



Source: OECD Science, Technology and Industry Outlook 2014

This has been accompanied by China's recent bold commitment to capping carbon emissions by 2030 as well as Beijing's determination to put GDP on a softer but more stable and ultimately sustainable footing. This is what Xi Jinping calls China's "new normal".

The cold mathematics of these scenarios indicate that universities cannot continue to reinvest fees from large numbers of Chinese international students to subsidize research activity—once air quality improves, economic growth stabilizes and Chinese universities assume stronger positions in rankings, and the value proposition of a Chinese degree will increase dramatically.

Unless traditional players become part of China's transformation, their historic competitiveness will be eroded.

The contrast could not be starker between the political priorities governing China's higher education and innovation system and those plaguing most of the old world.

As university funding in much of the developed world is held hostage to political inertia, deadlocked parliaments and efficiency dividends, established universities must look to Beijing to future-proof their competitiveness.

There are opportunities for the global higher education community to join this remarkable shift in power and form innovative partnerships with Chinese universities.

One Belt One Road: what this means for higher education

Beijing is no longer content simply being an actor in old world geopolitics. The "One Belt One Road" initiative is emerging as the Xi Jinping administration's signature contribution to new multilateral political and economic architecture.

With the "Silk Road Economic Belt" weaving through Eurasia, and the "Maritime Silk Road" spreading across South-East Asia and into Australia, China sees this as critical to consolidating growing regional economic interdependence, and core to its political and trade diplomacy priorities.

Designed to address the region's forecast multitrillion-dollar infrastructure shortfall, the Beijing-led US\$100 billion Asian Infrastructure Investment Bank (AIIB) is perhaps the most familiar initiative stemming from the One Belt One Road policy. China is also assembling a US\$40 billion New Silk Road Fund designed to further boost capacity and build integration across the region.

In less than two years, the AIIB has secured membership from 57 countries representing an astonishing collection of traditional US allies, major G20 economies and emerging powerhouses; China has demonstrated both the demand for new multilateral architecture and its ability to mobilize such an extensive range of members.

The next logical step is for Beijing to leverage the One Belt One Road initiative to launch a new regional free trade pact that could rival the troubled US-led Trans Pacific Partnership. Such a network would pose significant implications on student and researcher mobility, and could bring about a new regional qualifications framework.

China's higher education community is already mobilizing resources behind One Belt One Road with the recent establishment of the Universities

Alliance for the New Silk Road (UANSR). Backed by the Chinese Government and led by China's Xi'an Jiao Tong University, the UANSR Secretariat is located at the symbolic start and finish of the historical and modern day incarnations of the famed ancient trade route.

Already 100 universities from 22 countries have joined the network, which aims to increase collaborative research, joint researcher training, staff and student mobility, as well as open up reciprocal access to knowledge transfer opportunities and networks across the region.

The diversity of the network's membership is not at all dissimilar to the breadth of countries represented at the AIIB.

Comprised of traditional research intensives such as Liverpool University, Milan Polytechnic, National University of Singapore and the University of New South Wales as well as South Asian, Russian and Middle Eastern universities, the membership is again testament to China's growing influence in both old and new world economies. It is also recognition from the higher education community that China represents the new global nerve center of research activity.

Aiming to do what no institution would be capable of doing independently, it seems members recognize that super regional connectivity to China will be vital to the evolution of the research and innovation ecosystems of the future.

The One Belt One Road initiative will see hundreds of billions of dollars of capital fuelling new development in a new super region across all points of the compass in a vast expanse from Hobart to Rotterdam and Nairobi to Vladivostok.

The new skills and technology required to support this super regional economy in a way that does not deplete ecosystems or destroy national balance sheets represents an unprecedented challenge.

China's rise is happening now and this will have profound implications on the power balance which has historically governed the composition of the global top 100. This has real significance for institutions that enjoy top billing on the rankings or benefit from large fee-paying Chinese student cohorts.

The challenge for universities everywhere is to gear their research and recruitment strategies for a day when the rivers of gold flowing from Chinese students inevitably go from boom to bust. The time for bold leadership to join with China's universities in their rise is now, for the butterfly's wings are truly flapping.

Laurie Pearcey is UNSW Australia's director of international strategy with specific portfolio coverage of Greater China and India. Laurie's responsibilities include industry and government relations, academic partnerships, market development and student recruitment. Laurie holds a dual appointment as the director of the Confucius Institute at UNSW. Prior to joining UNSW, Laurie was the chief executive officer of the Australia China Business Council where he led the council's strategic engagement with the Chinese and Australian governments and represented the collective interests of major industry stakeholders in the Sino-Australian trade and investment relationship. Laurie is a proud UNSW alumnus and scholar of the Order of Australia Association Foundation. He is currently pursuing a master of business administration in higher education management at the Institute of Education, University College London.

Looking for inspiring events to attend in 2016? Here is a diverse array!

QS Asia takes pride in providing interactive and innovative programs for academics and 2016 is set to be no different. With 6 events already confirmed and more being planned, 2016 is set to be an action-packed year of academic conferences, seminars and summits.



9th QS WorldClass Seminar

*Innovation for Knowledge-based Economies:
Education, Research and Governance*

April 4–6, 2016
Equarius Hotel, Sentosa, Singapore

Organizing partners:
Nanyang Technological University and
University of Johannesburg

The seminar will convene university leaders to discuss education-business partnership and the governance of innovative knowledge-based economies with an emphasis on measured outputs such as strategic planning, performance indicators and quality assurance.

www.qsworldclass.com



6th QS-MAPLE Conference & Exhibition

*Defining and Designing
Student Success*

May 10–12, 2016
Al Ain, United Arab Emirates

Organizing partner:
United Arab Emirates University

QS-MAPLE is designed to become a forum where the major areas of concern regarding the evaluation of Middle Eastern and African universities in a regional and global context is discussed and resolved.

www.qsmapple.org



QS Subject Focus Summit – Materials Science & Engineering

*Convergence in Action:
Materials Science & Engineering
as The Central Subject*

June 13–15, 2016
Seoul, South Korea

Organizing partner:
Seoul National University

The summit brings together academics and industry professionals from Materials Science & Engineering and related domains.

www.qssubjectfocus.com



QS in conversation Seminar

*Connecting University Research
to Venture Capital*

August 2016
Macau, China

Organizing partner:
Macau University of Science & Technology

QS in conversation with Venture Capital (QS ICVC) is a special edition that aims to connect university research and university researchers to venture capital in order to accelerate the bringing-to-market of new technology developed at universities.

www.qsinconversation.com



12th QS-APPLE Conference & Exhibition

*New Directions in Asia-Pacific Higher Education:
Challenges and Opportunities*

November 22–24, 2016
Kuala Lumpur, Malaysia

Organizing partner:
Universiti Malaysia Perlis

QS-APPLE is the prime conference and exhibition for international educators in Asia, Europe, America and Australasia and highlights the richness and diversity of higher education in the Asia-Pacific.

www.qsapllege.org



3rd QS Summer School Summit

December 2016
Chennai, India

Organizing partner:
VIT University

QS Summer School Summit has emerged as the leading forum for the global summer school community, bringing together thought leaders and higher education professionals involved in the planning, organizing and sending of students to summer schools and other short-term academic programs.

www.qssummerschool.com

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Most Affordable City in the World for Students – Kuala Lumpur
(QS Best Student Cities Survey 2013/14)

4th Best Shopping Destination in the World – Kuala Lumpur (CNN Travel 2013)

5th Most Price-Competitive Country in the World
(Travel& Tourism Competitive Report 2013, World Economic Forum)

5th Safest & Most Peaceful Country (Global Peace Index 2013)

5th World's Most Visited Country (World Tourism organisation (UNWTO) 2013)

6th Position Globally in Ease of Doing Business (World Bank Doing Business 2014 Survey)

12th Most Preferred Education Destination (UNESCO, 2014)



Malaysia. A Dynamic Higher Education Landscape

Over the past decade, Malaysia has become one of the fastest growing education destinations for international students, with a 16% average growth annually.

Malaysia has one of the highest proportions of international vs domestic students in the academic world, with nearly one international student for every 10 local students, on average.

Currently ranked the 12th Most Preferred Education Destination in the World (UNESCO, 2014), Malaysia offers internationally recognized education, with quality programs, discerned academia, dynamic learning environment and a cosmopolitan lifestyle, all at an affordable cost.

Quality, Diversity and Choice

CHOICE

- 20 Public Higher Education Institutes
- 483 Private Higher Education Institutes (and 27 branches)
 - 41 private universities and 20 branch campuses
 - 28 private university college and 6 branch campuses
 - 8 international branch campus and 1 branch campuses
 - 406 private colleges

VARIETY

Over 6800 courses and programs, accredited by the Malaysian Qualifications Agency(MQA)

QUALITY

Research Universities • 5 Malaysian public universities are ranked as "Research University": University Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM), Universiti Teknologi Malaysia (UTM) and Universiti Putra Malaysia (UPM).

International University Branch Campus • 3 International University Branch campuses rank within the top 100 universities in the world

(Nottingham, Southhampton and Monash).

Global Ranking • 4 Malaysian public universities rank top 350 in the world, amongst 30,000 universities globally. Based on subject rankings, 11 faculties of Malaysian public universities rank within top 100 in the world. USM ranks 28th for environmental sciences and is in the top 100 for civil and structural engineering, chemical engineering, pharmacy and pharmacology, and computer sciences and information systems. UPM ranks 45th for agricultural sciences; UM ranks top 100 in modern languages, computer sciences, chemical, electrical, mechanical, aeronautical and manufacturing engineering.

Reputable Academia • 14 professors from Malaysia's public universities are listed in "World's Most Influential Scientific Minds 2014" by Thompson Reuters. Their published research ranks among the top 1% most cited, in their respective fields, from a study of citation data over 11 years.

Publications • 41% or 178 of scholarly publications on Islamic banking, published globally between 2009 and 2014, originates from Malaysia. Malaysia is the fastest rising publisher of papers in scientific journals, with a three-fold increase in publications from 2007–2012.

DIVERSITY

Over 135,000 students from 160 nations

AFFORDABILITY

The range of institutions in Malaysia, from public, private and international university branch campuses all provide a value for money option for students and parents. Education in Malaysia is not just about quality and choices, it also broadens access to higher education with affordable tuition fees and a comparatively lower cost of living.

Strategic Industry Linkages

Converge; Learn and Grow with Industry Leaders

Malaysia is home to reputable foreign multinationals and is also the proud owner of

dynamic home grown companies which has evolved to become global leaders.

Many Higher Education Institutes in Malaysia forge collaborations with these industry leaders for talent development. Through such collaborations, you may enjoy the opportunity to collaborate on projects, training, undertake internship programs and even employment opportunities.

Studying in Malaysia

Simple, Quick, Convenient.

Education has been prioritized as Malaysia's New Key Economic Area, to spearhead its transformation into a high income nation. The Ministry of Education is committed to building the capacity and strengthening the infrastructure of the Malaysian Education system, with clear strategies outlined in the Malaysian Education Blueprint, 2015-2025, towards strengthening Malaysia's position as an international and reputable education hub.

Friendly immigration laws makes it simple and convenient for international students to pursue a tertiary education in Malaysia's network of universities, university colleges and colleges throughout the country.

Education Malaysia Global Services (EMGS), a company wholly owned by the Ministry of Education, acts as a one-stop-center for international student services.

The EMGS call center handles all inquiries and provides council through phone and emails.

Call +603 2782 5888, or
email enquiry@emgs.com.my

Knowledge is the Source of Progress

University of Malaya

University of Malaya (UM) is the premier university in Malaysia with more than 100 years of experience in producing leaders and thinkers of tomorrow. The university was established on October 8, 1949, when the King Edward VII College of Medicine (1905) merged with Raffles College (1928). Today UM is located on a lush 900-acre campus in the capital city, Kuala Lumpur.

As a comprehensive research intensive university, UM is in good stead to lead and innovate in cutting edge research. National transformation plans in the delivery of higher education have certainly impacted the university in a very positive way. The past few years saw incremental upgrades in our infrastructure and facilities to meet international standards as we readied ourselves to receive top-notch visiting professors from abroad to teach in our classrooms and to collaborate with our researchers.

UM has established a unit specifically focused on High Impact Research (HIR). As an endorsement of the research work being conducted in UM, the Ministry of Higher Education (MOHE) Malaysia has allocated US\$183 million for the UM-MOHE HIR program. Aside from the HIR, research is

organized into 8 research clusters which have unveiled significant new findings and discoveries. UM boasts two Nobel Laureate centers, namely the UM-Marshall and UM-Baltimore Centres.

In line with the national agenda to internationalize higher education, UM has increased the number of international staff and students to provide an international environment on campus. Currently, there is a total of 847 international staff out of the total 2,912 academic staff. There are nearly 4,000 international students from over 80 countries out of the total student population of 24,000. As a research university, there is great emphasis on postgraduate research programs and UM now has a ratio of one postgraduate to one undergraduate student. Thus far, UM has produced more than 200,000 leaders in their own fields ranging from social activists, entertainers, world-class athletes, leading scientists, diplomats, corporate leaders, ministers and Prime Ministers.

The university offers a total of 364 undergraduate and graduate programs ranging from the arts and humanities to medicine, dentistry and science and technology. More than 70% of the

programs have a research component as it remains dedicated to finding solutions to the great challenges of the day and to preparing our students for today's challenging world. Accreditations by renowned institutions and professional bodies in the fields of engineering, chartered surveying, architecture, medicine, business administration and accounting, to name a few, have ensured that its curriculum and programs meet international standards.

As a world-class university, UM has implemented research and innovation as a culture of learning, and is committed through internationalization efforts to develop global citizens.

UM is committed to produce quality graduates through transformative and conducive learning experience; advance the frontier of knowledge through research and consultancy; provide state-of-the-art resources to enrich learning and research experiences; nurture and manage talents for the nation; actively support the local community and nation building efforts; provide solutions and knowledge-capacity to the industries and organizations; become a world-class university through internationalization.



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The National University Of Malaysia

In 1968 Malay scholars formed a steering committee to bring the vision of a national university to reality. The efforts to realize a Malay language-based institution in all subjects bore fruit and resulted in The National University Of Malaysia (UKM), in May 18, 1970, which opened its doors in Lembah Pantai Kuala Lumpur. The first batch of 190 undergraduates and 1 postgraduate registered at 3 faculties: Science, Arts and Islamic Studies.

UKM has since provided an increasing number of places of learning for the people as well undertaking research in various disciplines and fields of study. It now has 13 faculties, a Graduate School of Business (GSB-UKM), as well as 16 research institutes of excellence in education. UKM has also set up UKM Holdings Sdn. Bhd, operating as a commercial entity to benefit from all the expertise it has while also generating income for the university.

The university's main campus in Bangi, Selangor Darul Ehsan spans an area of 1,096.29 hectares, approximately 35 kilometers from Kuala Lumpur. The campus is situated in a valley surrounded by hills and greenery, providing a serene and conducive environment for learning and knowledge exploration. The faculties and institutes housed in the main campus are the Faculty of Economics and Management, Faculty of Engineering and Built Environment, Faculty of Islamic Studies, Faculty of Science

and Technology, Faculty of Social Sciences and Humanities, Faculty of Law, Faculty of Education, Faculty of Information Science and Technology, Graduate School of Business (GSB-UKM), Institute of Malay World and Civilisation (ATMA), Institute of Environment and Development (LESTAR), Institute of Malaysian and International Studies (IKMAS), Institute of Occidental Studies (IKON), Institute of Space Science (ANGKASA), Institute of Microengineering and Nanoelectronics (IMEN), Institute of System Biology (INBIOSIS), Institute of Solar Energy Research (SERI), Fuel Cell Institute (SEL FUEL), Institute of Islam Hadhari (HADHARI), Institute of West Asian Studies (IKRAB), Institute of Ethnic Studies (KITA), Institute of Southeast Asia Disaster Prevention Research (SEADPRI), UKM Medical Molecular Biology (UMB), Institute of Climate Change Studies (IKP), Institute of Visual Informatics (IVI), Centre of Graduate Management (PPS), Centre of General Studies (PPU), Students Development Centre and other service centers.

Since its inception 45 years ago, UKM has produced 176,009 graduates. The university has since attracted global attention, as seen in the 2,937 students from 42 nations. The university is based on the philosophy of the integration of faith in Allah and constructive knowledge; along with the amalgamation of theory and practice as the core fundamentals in the advancement of knowledge, the building of an educated society and the development of the university.

UKM was appointed as one of the four research universities of Malaysia in 2006 for its excellent record in research for 40 years. That recognition has gained further ground when the Malaysia Genome Institute (MGI) and the International Institute of Global Health, United Nations University were set up at the university. Its areas of research were further consolidated and enhanced with the identification of eight niche areas: Challenges to Nation Building, Sustainable Territorial Development, Renewable Energy, Health and Medical Technology, Climate Change, Nanotechnology and Advanced Materials, Biological Diversity in Biotechnology Development and ICT: Content Informatics.

UKM is also the recipient of the Prime Minister's Quality Award 2006, in recognition of its excellent achievements in the academic and management fields. It has also been conferred the status of an Autonomous University since January 2012. UKM aims at not just sustaining but also enhancing its level of excellence via its 2000-2020 (PS2020) Strategic Plan in line with its slogan "Inspiring Futures, Nurturing Possibilities". All these developments have brought about greater confidence among its staff to continue upgrading their capabilities while enhancing their talents in a conducive, healthy and supportive environment as provided by the university.



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Towards An Innovative, Entrepreneurial and Global University

Universiti Teknologi Malaysia

Since its establishment as a technical school in 1904 and finally a full-fledged university in 1972, UTM has played a pivotal role over the years as the nation's largest contributor of technical and professional workforce for the local industry, government agencies as well as multinational companies. It is located both in the heart of Kuala Lumpur, known as the UTM Kuala Lumpur Campus, and in Johor Bahru, which is its main campus, situated in a strategic location in the Iskandar Malaysia region, a vibrant economic corridor in the south of Peninsular Malaysia.

Along with its established vision to be recognised as a world-class Entrepreneurial Research University, UTM is set to be the centre of academic and technological excellence. Its mission is to be a leader in the development of human capital and innovative technologies that will contribute to the nation's wealth creation. UTM is now regarded as Malaysia's premier institution in engineering, science and technology and ranked in the top 100 league in the World University Rankings in the field of engineering and technology.

UTM's vision is therefore in line with the aspiration of the nation towards becoming a knowledge-based, innovation-led economy grounded in creativity and innovation with high value creation. The differentiation strategy

for the university is the concept of "New Academia", which is an attempt at embracing fresh dimensions to knowledge culture beyond the conventional academia paradigm. It is an integrated model of knowledge advancement across disciplines and beyond boundaries where knowledge acquisition, application and dissemination happen in a more dynamic, vibrant and enriching way based on practicality, meaningful engagement, smart partnership and relevant exposure. The "New Academia" aims to make higher education more efficient and integrated into socio-economic development. To make this a reality requires good governance, steady funding source and entrepreneurial spirit.

Innovation is also central to UTM's core values, with the innovation culture permeating across all dimensions of the university including teaching and learning, research and development, writing and publication, management and administration, staff and student development, consultancy and professional services and also university social responsibility. Innovation is expedited by the university community through concerted effort and strong team spirit with shared values and purpose.

Since becoming a research university, UTM is committed to becoming a graduate-focused university with more innovative research-based postgraduate programmes offered

and more attractive and varied modes of PhD programmes implemented such as PhD by Publication, Industry-based Doctoral Degrees, PhD by Fast Track and Double/Dual Doctoral Degrees. This not only provides flexibility in postgraduate study approaches, but at the same time contributes to increased publications and citations, while enhancing technological development and value-driven economy.

Through a strategic transformation of its organisational structure, UTM is focused on creating a vibrant knowledge culture and fertile intellectual ecosystem that inspire creativity, innovation and entrepreneurial mindsets. This is also in tandem with the transformation plan of the Ministry of Higher Education to turn Malaysia into an educational hub renowned for high quality educational standards and research excellence in strategic key areas of knowledge and specialised disciplines as well as multi-disciplinary fields.

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Transforming Higher Education for a Sustainable Tomorrow

Universiti Sains Malaysia

Established as the second university in the country in 1969, Universiti Sains Malaysia (USM) was first known as Universiti Pulau Pinang. In 1971, USM moved from its temporary premises at the Malayan Teachers' Training College, Bukit Gelugor to the present 416.6 hectare site at Minden, approximately 9.7 kilometers from Georgetown.

USM has a mission to be a pioneering, transdisciplinary research intensive university that empowers future talents and enables the bottom billions to transform their socio-economic well-being. The university is a staunch promoter of values such as quality, equality, availability, accessibility, affordability, and appropriateness.

USM is committed to achieving its mission through empowering students with the values and characteristics that are accepted in local & global markets; empowering students to enhance future leadership talents to build a human capital that is holistic and sensitive to social issues and global changes in the process of nation building; empowering researchers to improve the research and innovation that are recognized and make an impact on society and the survival of a sustainable world; strengthening academic excellence through continuous professional development and keeping abreast with technology; educating and

strengthening efforts to realize the sustainability agenda of the university; strengthening university collaborations in various local and global strategic networks; and strengthening the governance of the university through the improvement of quality and continuous professional development.

USM offers courses ranging from Natural Sciences, Applied Sciences, Medical and Health Sciences, Pharmaceutical Sciences to Building Science and Technology, Social Sciences, Humanities, and Education. These are available at undergraduate and postgraduate levels to approximately 30,000 students at its 17 Academic Schools on the main campus in the island of Penang; 6 Schools at the Engineering Campus in Nibong Tebal (approximately 50 kilometers from the main campus); and 3 at the Health Campus in Kubang Kerian, Kelantan (approximately 300km from the main campus).

USM also has 17 dedicated research centers for a wide range of specializations which include archaeology, medicine and dentistry, molecular medicine, science and technology, Islamic development and management studies, and policy research and international studies. It also provides consultancy, testing, and advisory services to the industry under the ambit of USAINS Holdings Sdn Bhd, the University's commercial arm.

Since the beginning, USM has adopted the School system rather than the traditional Faculty system to ensure that its students are multi-disciplined from their exposure to other areas of study by other Schools. It also encourages students to be active in extra-curricular activities given the myriad of clubs and societies available.

As a Research Intensive University recognized by the Ministry of Higher Education Malaysia (MOHE) in 2007, USM offers educational and research opportunities to students and staff. In 2008, USM also became the first university in the country to be selected by the Malaysian government to participate in the Accelerated Programme for Excellence (APEX), a fast-track program that helps tertiary institutions achieve world-class status.

Besides contributing to the national research effort and advancement of knowledge in general, the university has also taken steps to identify and periodically assess areas of research which are deserving of special support in order to compete more effectively for external funds. In USM's bid to provide better incentives for the development of new products and processes by its staff, it has recently drawn up specific rules governing the patenting and commercialization of research results.



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With Knowledge We Serve

Universiti Putra Malaysia

Universiti Putra Malaysia (formally known as Universiti Pertanian Malaysia or College of Agriculture Malaya or School of Agriculture), or UPM, is recognized by the independent government assessments as one of Malaysia's leading research universities. Founded in 1931 as the School of Agriculture, UPM's main campus is located in central Peninsular Malaysia, close to the capital city, Kuala Lumpur and next to Malaysia's administrative capital city, Putrajaya. It was formerly known as Universiti Pertanian Malaysia or Agricultural University of Malaysia.

UPM is a research university offering undergraduate and postgraduate courses with a research focus on agricultural sciences and its related fields. The university maintains its performances as one of the world's best 100 universities in the field of Agriculture and Forestry for three consecutive years by QS World University Ranking by Subjects. In the fields of Accountancy and Finance, Electrical Engineering, Mechanical Engineering and Chemical Engineering, UPM stands in the world's 150th position. Adding to its string of successes, UPM

was among the world's 200 best universities in the fields of Literature and English, Public and Structural Engineering, Environmental Sciences, Business and Management, Education, Economics and Econometrics, Computer Science and Information. In addition, UPM improved its position in the QS World University Rankings: Asia 2015 when it was placed 66th, against 76th in the previous year.

UPM displayed an outstanding achievement when, for the first time, it was ranked 38th in the QS Top 50 under 50 rankings. University assessment in QS Top 50 under 50 is based on the same criteria used by QS World University Rankings (WUR) 2015, encompassing academic reputation, employer's reputation, research and internationalization. The ranking is for universities established after the year 1965.

UPM hosts a total of 23,193 students and 2,627 academic staff, of whom 4,634 students and 516 academics are international. The university comprises 16 faculties, 9 institutes, 16 centers, 1 school and 1 academy.

As a premier institution of learning, widely recognized for leadership in research and innovation, UPM continues to strive for excellence. In order to motivate the entire university community towards achieving excellence, it ensures that all the members, both students and staff, share the responsibility of strictly adhering to the demands of the university's vision, mission and goals.

Aspiring to become a university of international repute, UPM has the mission of making meaningful contributions towards wealth creation, nation building and universal human advancement through the exploration and dissemination of knowledge.

The university has also defined five major goals toward achieving the mission: 1) Enhancing the Quality and Competitiveness of Graduates; 2) Creating Value through a Strong and Sustainable RDCE; 3) Boosting Industry and Community Networking Services ; 4) Strengthening UPM as a Centre of Excellence in Agriculture; 5) Enhancing the Quality of Governance.

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Inquire, Inspire and Innovate

Multimedia University

Multimedia University (MMU), a tertiary education institution set up through Universiti Telekom Sdn Bhd (UTSB), a wholly owned subsidiary of TM, fulfils the noblest of corporate social responsibilities—taking up the challenge of educating the next generation the nation's leaders and knowledge workers. As the first private university in Malaysia, MMU developed the pioneer model for the successful establishment of private universities in the nation, paving the way for the growth of the private tertiary education sector. As the university at the heart of the MSC, MMU also serves as a catalyst for the development of the high tech ICT industry of the nation, parallel to the Silicon Valley-Stanford model in the United States.

Growing to over 18,000 students in 19 years, MMU has achieved much in a relatively short period of time. The university runs in two campuses, its original campus in the historical city of Melaka, and the campus in Cyberjaya that was opened by the former Prime Minister Tun Dr Mahathir Mohamed. It has produced more than 40,000 graduates in its time, and a recent survey demonstrates that 97% of these secure

employment within 6 months of the completion of studies. It has also grown an outstanding pool of international students about 1500 students from 72 countries. Establishing itself as a major player in research and development, and maintaining excellent ties with the industry through collaborations and research partnerships, MMU is focusing in the niche areas of nanotechnology, microsystems, biometrics, virtual reality, cinematic arts and telecommunications, engineering, photonics, advanced robotics and business.

Cyberjaya Campus

As part of TM's initiative to further develop the ICT industry in the nation as a whole, MMU serves to fulfil the nation's human resource needs as it grows into a knowledge economy. The establishment of MMU as a research university also serves to benefit the nation's ICT industry to be a creator and not just a consumer of technology. Through the establishment of a local private university, the nation can train its required human resources within its borders, a sound strategy from the economic management perspective.

MMU's continued growth and sustainability is a clear indication of TM's strong commitment towards the development of the field of education and research in the nation.

Melaka Campus

The campus stands on a 52-acre piece of land strategically located in the vicinity of serene residential areas, booming industrial areas, booming industrial sites and scenic Ayer Keroh tourist spots. Melaka campus comprises the Learning Institute for Empowerment, Faculty of Engineering and Technology, Faculty of Information Science and Technology, Faculty of Business and Faculty of Law.

Nusajaya Campus

The MMU Nusajaya Campus offers the Bachelor of Cinematic Arts (Honors) program as part of MMU's objective to be a talent feeder into the nation workforce for the film and creative industry. Collaborating with the internationally renowned University of Southern California, the Cinematic Arts program aims to develop Malaysia's next generation of film maker.



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Garden of Knowledge and Virtue

International Islamic University Malaysia

IIUM aims to become a leading international center of educational excellence which seeks to restore the dynamic and progressive role of the Muslim Ummah in all branches of knowledge and intellectual discourse. The university's mission includes Integration; Islamization; Internationalization; and Comprehensive Excellence.

IIUM comprises the following faculties: Ahmad Ibrahim Kulliyyah of Laws (AIKOL); Kulliyyah of Islamic Revealed; Knowledge and Human Sciences (KIRKHS); Kulliyyah of Economics and Management Sciences (KENMS); Kulliyyah of Engineering (KOE); Kulliyyah of Architecture and Environmental Design (KAED); Kulliyyah of Information and; Communication Technology (KICT); Kulliyyah of Languages and Management (KLM); Kulliyyah of Education (KOED); Centre of Languages and Pre-University Academic Development (CELPAD); Centre for Postgraduate Studies (CPS) (CPS); International Institute of Islamic Banking and Finance (IIiBF); Kulliyyah of Medicine (KOM); Kulliyyah of Allied Health Sciences (KAHS); Kulliyyah of Pharmacy (KOP); Kulliyyah of Nursing (KON); Kulliyyah of Science (KOS); Kulliyyah of Dentistry (KOD)

Established in 1983 as a public university, IIUM started with 153 students. Today approximately 3,000 students enroll each year. As of 2005, there were approximately 20,000 students from over 40 Muslim majority countries studying in IIUM, as well as students from non-Muslim majority countries (such as Germany, Finland, China, South Korea, Japan, India, United States of America, Kashmir, Russia, Thailand, Laos, Cambodia, Burma, Vietnam, Sri Lanka and the Philippines). The ratio of female-to-male students is 3:1. Since 1987, there have been 60,785 graduates and postgraduates who have successfully completed their studies at the IIUM. Out of this, 53,241 were from Malaysia while 7,530 were International students.

IIUM was also involved in the creation of the Malaysian Shariah Index with collaboration from JAKIM and YADIM, which Malaysia will be the first country in the world to adopt. The index will measure the compliance of eight fields—judiciary, politics, economics, health, education, culture, infrastructure and environment, and society—with “maqasid syariah”, or the intentions of Shariah. The Malaysian Shariah Index was officially launched by the Prime

Minister of Malaysia on February 10, 2015.

In order to maintain its status as a premier global Islamic university, IIUM is pursuing the following strategies: Firstly, IIUM is focusing on research development under its key result area of research and innovation. Secondly, IIUM is strengthening its teaching and learning to equip its students for innovative and creative learning. Thirdly, IIUM is increasing its postgraduate students to contribute to the research university status.

In the global arena, IIUM is an affiliated member of the Organization of Islamic Conference (OIC). IIUM plays an important role in helping OIC member countries in all related research and academic matters. IIUM's strategy in increasing global recognition and improving its world ranking is focusing more on its research and teaching activities. This strategy is in-line with IIUM's inspiration to contribute its global education for the better world.

The IIUM Islamic banking program is recognized as the best in the world by Elsevier. IIUM has produced 11% of the world total publication on Islamic banking and finance to date.



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Engineering Futures

Universiti Teknologi Petronas

Universiti Teknologi PETRONAS (UTP) was established in 1997 and has grown to be one of the most prominent private universities in Malaysia. UTP offers a wide range of industry-relevant engineering, science and technology programs at undergraduate and postgraduate levels and aims to produce well-rounded graduates with excellent leadership qualities and communication abilities. UTP has produced more than 10,000 graduates, and currently has an enrolment of over 6,000 undergraduates and 1,200 postgraduates from more than 66 countries around the world.

In less than two decades since its establishment, the university has attained prestigious national and international recognitions. UTP is the only private university in Malaysia to be ranked in the top 160 under the Quacquarelli Symonds (QS) University Rankings: Asia 2015 and was ranked at 288 for the 2015 QS World University Rankings under the Engineering and Technology Faculty.

UTP improved its ranking in the 2015 QS World University Rankings by subject. It maintained its position in the top 200 for Chemical Engineering. Three subjects were also added to this world ranking – Electrical and Electronics Engineering and Mechanical Engineering (201–250) and

Computer Science and Information Systems (301–350).

UTP is the only private university in Malaysia to be rated a four-star institution by QS, with a maximum five-star rating in five areas out of eight, namely employability, internationalization, innovation, facilities and inclusiveness.

The university conducts extensive research activities in collaboration with PETRONAS and other institutions and industries locally and abroad focusing on nine niche areas which are Enhanced Oil Recovery, Carbon Dioxide Management, Deepwater Technology, Nanotechnology, Green Technology, Biomedical Technology, Hybrid Energy Systems, Intelligent Cities and Sustainable Resources.

UTP is the first and only private university to be awarded a 6-star rating (the highest performance level) by Malaysia Research Assessment for its research, development and commercialization efforts.

UTP continues to provide distinctive educational opportunities to its students with the rating of Tier 5 (Excellent) University for SETARA (Rating System for the Malaysian Higher Education

Institutions) and achieved Tier 5 for D-SETARA (Discipline-Based Rating System) in Engineering.

The university's missions are as follows: UTP is an institute of higher learning that provides opportunities for the pursuit of knowledge and expertise for the advancement of engineering, science and technology to enhance the nation's competitiveness; the university's objective is to produce well-rounded graduates who are creative and innovative with the potential to become leaders of industry and the nation.

UTP has made a conscious effort to ensure that the teaching and research facilities are built and maintained to enable efficient academic delivery, as well as support groundbreaking research and development.

The university's state-of-the-art teaching and research facilities are specifically designed to provide a conducive learning environment; enable the creation of well-rounded graduates; instill students with high technical competence; motivate students to realize their full potential; and enable critical thinking, creativity and promote business acumen and communication skills.



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12

ASIA COUNTRY FEATURES

BRUNEI
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Higher education in Brunei: an overview

By **Dato Dr Zulkarnain Hanafi**

Minister of Health

Brunei Darussalam



In 2014, Brunei Darussalam celebrated its 100th anniversary for formal education. In 2015, Universiti Brunei Darussalam (UBD), the oldest university in the country, marked its 30th anniversary. The history of higher education in Brunei is still a short one, but the national vision, Wawasan 2035—with its key objective for a highly skilled and educated population—reaffirms the significant role that higher education plays as Brunei diversifies away from an economy dependent on the oil and gas industry.

There are currently four state universities in Brunei, each in a different phase of development and each addressing a different national priority. UBD, established in 1985, is not only the oldest, but also the most comprehensive and research intensive. In 2015, it was ranked 118th in Asia in the QS Asian University rankings, with research in the field of arts and humanities 127th in the region, in natural sciences 149th, in social sciences and management 162nd, and in life sciences and medicine 170th. UBD is considered the number one university choice for Bruneian students locally, and has steadily been growing its international student population over the last nine years.

Universiti Islam Sultan Sharif Ali or UNISSA was established in 2007 and is a religious university for the study of Islam across four broad areas: business and management, Shariah and law, Usuluddin, and the Arabic language and Islamic civilization. It currently hosts Madzhab Syafie' Research Centre and a center for postgraduate studies and research. Also established in 2007 is Kolej Universiti Perguruan Ugama Seri Begawan (KUPUSB), a teaching university focused on training Islamic education teachers.

Formerly a vocational school established in 1986, Institute Teknologi Brunei (ITB) was upgraded to a university in 2009. It now specializes in engineering and technology, and is swiftly catching up with UBD's research activity. It has also taken its cue from UBD's former vision of being a top 50 university in Asia by 2015, and has the stated vision "to be amongst the best 10 universities for engineering and technology in Southeast Asia by 2018."

In addition to these four state universities, Politeknik Brunei was established in 2012, and there are seven government-run vocational/technical schools and colleges. There are also six private higher education institutions in Brunei, of varying levels of quality: the Laksamana College of Business, the International Graduate Studies College, Micronet International College, the Cosmopolitan College of Commerce and Technology, the KEMUDA Institute, and the Bicpa-Ftms Accountancy Academy.

Towards Brunei's national vision 2035

The aims of Brunei's Wawasan 2035 are to have a highly skilled, highly educated population, with good quality of life, and a dynamic, sustainable economy by the year 2035. The strategic thrusts of the Ministry of Education's plan for higher education development have oriented themselves around these aims and the way that higher education institutions can contribute to the fulfilment of these aims.

Broadly speaking, these strategic thrusts are to develop self-sustaining, enterprising universities with a focus on innovation and enterprise; the expansion of universities to achieve a 30% enrollment; and the preparation of globally marketable graduates.

Focusing on innovation and entrepreneurship

Higher education institutions in Brunei have been blessed with the continuing strong support of His Majesty's government. While this support will remain crucial to the development of higher education in Brunei, the MOE strategic plan focuses on ensuring that higher education institutions in Brunei will eventually become largely self-sustaining institutions through innovation and entrepreneurship.

There has been increased emphasis on the production of applied research that can translate into commercialization works that drive national economic diversification and development. For a small, natural resource-based economy like Brunei's, the role of higher education institutions in driving research and the development of knowledge is significant. Research funding for the universities has increased significantly in the last decade.



Researchers taking a boat ride to the Kuala Belalong Field Studies Centre (KBFSC), which has attracted international collaborators to undertake research on the rich and diverse flora and fauna.

A case in point is UBD: until 2009, the annual research budget for the university was BND 250,000. This increased by over 100 million from 2009–2015. All three major universities are in various stages of transitioning from being teaching institutions to teaching and research institutions in key niche areas.

Both UBD and ITB have taken on the challenge of incorporating an ethos of innovation and entrepreneurship throughout their curriculum and research goals. UBD has established seven research centers in Islamic studies, biodiversity, energy, Asian studies, e-government, policy and social issues, leveraging on key strengths of Brunei's locality and geo-political conditions and addressing the main challenges facing Brunei. Similarly, ITB has a Centre for Transport Research and a Centre for Innovative Engineering. Both universities have developed strong links with industry and private-public partnerships to produce cutting-edge research as well as modify the curriculum to produce industry-ready graduates. Most recently, UBD has begun collaboration with Pixela Corporation to develop new nanotechnology-based paints, and with Sengenic to develop halal bio-markers.

Apart from research, UBD has taken the step of embedding the skills and values of innovation and entrepreneurship in every module taken by students, across all faculties. UBD is also committed to nurturing this ethos holistically. In addition to setting up an Entrepreneurship Village under the National Entrepreneurship Agenda which seeks to nurture an entrepreneurial mindset in university and pre-university students, UBD has also collaborated with the Brunei Economic Development Board and the iCentre to provide a physical space for student-driven start-ups. In the Entrepreneurship @ Campus space, there is currently a 3D-printing company, a recruitment company for part-timers in the private sector, and a branding company, amongst others.

Marketable graduates

Higher education is a global business, and as Brunei diversifies away from a natural resource-dependent economy to a knowledge-based economy, graduates will need to be prepared to compete internationally for employment. Globally marketable graduates need to be industry-ready, to meet the human resource needs of the nation, as well as future-ready, to continue to drive economic development in a knowledge economy.

One of the major challenges as Brunei transitions is that there is very little idea of what the knowledge economy is going to look like in terms of the practicalities of the workforce. If universities are to successfully equip graduates for this unknown future, approaches to knowledge become as important as disciplinary information. UBD has risen to this challenge by developing the GenNEXT curriculum for undergraduates, a broad-based multi-disciplinary educational program with a focus on experiential and lifelong learning. The "Discovery Year" feature of the GenNEXT curriculum illustrates this commitment; during the third year of their undergraduate degrees, all students must leave the university to take on any combination of the pathways of internship, community service, student exchange or incubation projects.

Achieving a 30% enrollment

As noted earlier, higher education institutions in Brunei have a significant role to play in achieving the national vision of a highly skilled, highly educated population. While many students will still continue to be sent overseas to continue their studies, there is emphasis on developing local universities to an internationally competitive standard to meet the need for a highly skilled and knowledgeable workforce. There is currently a 21% enrollment of students in higher education—expected to reach 30% by 2020. In meeting the aims of the national vision, however, this increase in quantity must be matched or exceeded by strides in the quality of higher education available locally.

As the Ministry of Education continues to refine its quality assurance frameworks, each institution has also set its own standards. One of the international benchmarks that the three major universities—UBD, ITB and UNISSA—have opted to pursue is participation in global ranking exercises such as the QS Asian University rankings and the Times Higher Education rankings.

Although this is only one of the international benchmarks undertaken, the influence of these exercises suggests that if the universities continue their trajectory of achievement, it is expected that international enrollment will increase substantially. Bruneian universities are already attractive regionally due to the stable geo-political conditions, high standard of living, and

good connectivity. In addition, as a moderate Muslim country located in the heart of Borneo, at the center of Southeast Asia and possessing one of the most diverse ecologies in the world, the local universities possess an undeniable comparative advantage in some of the most relevant and important research areas—Islamic studies, Asian studies, energy studies, and biodiversity.

With English already established as the medium of instruction (at UBD and ITB), Brunei seems poised to become a hub for higher education in the region, especially if its universities continue to climb the rankings.

Committed to higher education

The strategic plan devised by the Ministry of Education focuses on the ways in which higher education institutions in Brunei can support and fulfil the national agenda. Research and innovation are the engines for economic growth, particularly of the private sector. Also crucial to national development is increasing the higher education enrollment rate and ensuring that graduates are internationally marketable and competitive.

Brunei is a very young competitor in the global higher education market, and its higher education institutions have a significant role to play in meeting the human resource needs of the nation. The achievements of its universities in such a short span of time and the strong governmental support that the higher education sector receives are indicators that Brunei's commitment to developing higher education will continue to yield results that belie its youth.



The Faculty of Integrated Sciences houses some of UBD's innovative research inventions in energy studies and engineering.

Dato Dr Zulkarnain Hanafi was the former president and vice chancellor of Universiti Brunei Darussalam (2008–2015). He has a medical background as an otorhinolaryngology head and neck surgeon. In August 2012, Zul was appointed as a permanent secretary (higher education), Ministry of Education, concurrent with his presidency at Universiti Brunei Darussalam. He also served as the executive director of The Brunei Cancer Centre. More recently, in October 2015, Zul was appointed as minister of health of Brunei Darussalam. Dr Hanafi was conferred the Honorary Fellowship from the Royal College of General Practitioners of the United Kingdom in 2007 for his contribution towards improving care in general practice and influencing the work of general practitioners in Brunei Darussalam. Zul received his degree from Liverpool University, United Kingdom and his fellowship from the Royal College of Surgeons of Edinburgh, United Kingdom. Zul lives in Brunei Darussalam with his wife Sarimah. Together, they have five children.

CHINA

ASIA COUNTRY FEATURES

Integrating with high-quality educational resources, building a first-class Sino-foreign cooperative university

By **Prof Youmin Xi**
Executive President
Xi'an Jiaotong-Liverpool University



In May 2006, upon the official approval from Ministry of Education of The People's Republic of China (MOE), Xi'an Jiaotong University (China) and the University of Liverpool (UK) co-founded Xi'an Jiaotong-Liverpool University (XJTLU)—a university that is now a pioneering international university based in Suzhou city. XJTLU has been named as "Chinese higher education reform pathfinder", and is recognized by all sectors of the community by virtue of its unique university management model, high-level talent training quality as well as strong international characteristics formed on the basis of its development for years since its establishment.

Reflecting on the university's growth process, I would like to elaborate on three major points that made XJTLU the university it is now: 1) reflection of a university's culture through its unique features and brand characteristics; 2) exploring new educational models; and 3) contributing to regional economic development.

I. Reflection of a university's culture through its unique features and brand characteristics

Generally, universities may not pay attention to building their brand or educational features if there is a lack of management independence or market competitiveness. A university's niche positioning and value rests with its educational features, that is to say, how it makes a contribution to society and with what type of unique university management model.

Brand, on the other hand, is the result of such practices over a long period of time which are embodied through its students, teachers, research and societal contribution and spread by public recognition. The core of a university's culture is reflected by its unique features and brand image.

A university's culture is three-pronged: spirit, environment and system. Spirit culture is embodied by values, the pursuit of ideals, ways of thinking,

morality and emotions. The university's physical space and facilities constitute environment culture. Finally, the university's organizational and management structure constitute system culture. These three parts complement and reinforce each other and contribute to the university's education based on the core of spirit culture. Zhao Qinping, the former vice minister of education of China, considers that university culture consists of spirit, system, environment and product. The product dimension covers research in a variety of areas such as natural science and social science. In my personal opinion, students, teachers and alumni also play a significant role as messengers, in product dimension, for communicating awareness of the university culture.

The core concept of "happy life and successful career" at XJTLU conforms to the basic pursuit of the individual. Based on our research, XJTLU regards "diversity, regulation, innovation, freedom and trust" as core concepts of its own culture.

Diversity includes cultural background, nationality, personality and goals. In terms of the natural world and human social development, diversity is crucial in contributing to the realization of stability and sustainable development, and also benefits the innovation and creation, which are core essences of university.

However, diversity may also cause confusion, therefore, the formation of "principles" for coexistence is necessary to create a harmonious environment. Thus, "diversity and rules" constitute the foundation of harmony. Harmonious management underlies XJTLU's philosophy of existence and its management model. Innovation has been regarded as the true essence of the university and we have been trying our best to continuously move forward, make improvements and promote the cultivation of students' critical thinking, scientific research capabilities and constructively engaging with society.

Freedom is the patron saint of innovation. Without academic freedom, neither teachers nor students can truly realize their potential for innovation and creativity.

Trust is a core concept of XJTLU because of the complex challenges including globalization, the rapid expansion of the internet and a faced past world in which cooperation will become the norm for life, study, research and work.

II. Exploring new educational models

As a model of a private Sino-Foreign Cooperative University, XJTLU aims to differentiate itself from public universities with its focus on student development, management system revolution to face the challenges of knowledge worker and organization, new interactive relationship with society in the connected world, and the ambition to impact the education reformation in China and beyond. XJTLU was founded in an era of global reflection on education, the remodeling of teaching methods and the redefinition of universities. This provided an opportunity for XJTLU to explore a new model for higher education in line with other top international universities.

In addition, XJTLU possesses late-mover advantage whereby we have encapsulated extensive experience and knowledge of best practice from the global higher education space in formulating and implementing our own distinctive university model.

As to strategy, XJTLU aims to make contributions in three key areas. Firstly, in line with globalization, multiculturalism, and the continuation of a complex and changeable society, XJTLU cultivate international talents with cross-cultural leadership who will be in high global demand in the future. Therefore, the university intends to reform traditional higher education by drawing lessons from best practice of world education including creating an educational environment that integrates both online and offline education. Our research focuses on challenges faced by society and solutions to improve the quality of human life.

Secondly, the effectiveness of university management has been criticized for a long time in China and beyond. Up to this day, a majority of universities have applied a hierarchical organizational structure and some other universities have formed the cross-department/faculty research centers and research institutes by drawing lessons from the matrix structure. XJTLU, however, intends to explore both new organization and management models that are suitable for academics, in order to improve the effectiveness and efficiency of university management.

Thirdly, we founded an international university in China for the purpose of contributing to improved quality of human life through talent cultivation and research. Members of XJTLU not only try to make their own contributions to innovative educational models and university management, but also try to bring benefit to mankind by their practical achievements gained from our educational practice which has been the establishment of a new international university in China and the cultivation of global citizens with international perspectives and competitiveness, who are aware of future development trends and demands, with readiness for cross-cultural leadership for China and the world.

III. Contributing to regional economic development

XJTLU is located in the Yangtze River Delta region known as a world economic powerhouse and has strong cooperation with Suzhou Industrial Park (SIP). At present, more than 600 XJTLU faculty experts from over 50 countries are working together in SIP and this network work together in international innovation collaboration.

XJTLU has become an example of the internationalization of SIP. XJTLU recruits hundreds of high-quality personnel from around the world. XJTLU plays a critical role in the transformation and upgrading as well as sustained economic growth of SIP. In addition to the positive effect in brand promotion for SIP, XJTLU is also regarded as an indispensable role model for building an innovative international community in Suzhou providing intellectual support, science and education service, cross-cultural communication and social development.

XJTLU's education, research and services are making positive contributions to the development of SIP by cooperating with all sectors of the community in building a knowledge community that studies and aims to find solutions to societal challenges.

Conclusion

Reflecting on my own "Chinese Education Dream", I sincerely hope that when China becomes one of the world powers under the strong support from all sectors of the community, our education, too, becomes more powerful, and even becomes a leader in some realms. With our joint efforts, focus and assistance from all sectors, we try to realize an aspiration—when talking about the world's best universities, people would frequently mention Chinese universities as possible higher education destinations.

Professor Xi was born in 1957. He gained his BS in physics from Xi'an Science and Technology University in 1982, and his ME in system engineering from Xi'an Jiaotong University in 1984. In 1987 he was awarded the first doctorate degree in management engineering in mainland China and in 1993 he became the youngest supervisor of PhD candidates in management engineering in China. As a visiting professor, he has conducted joint research projects and discourses at universities in Canada, USA, Singapore and Japan as well as Hong Kong, Macao and Taiwan. Professor Xi's research and teaching areas cover strategic management and policy analysis, decision-making and decision support system, management behavior and firm theory, among others. He established harmony theory in 1987 and developed it to harmonious management theory. He is currently executive president of Xi'an Jiaotong-Liverpool University. Prior to this, he was vice president of Xi'an Jiaotong University.



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As we celebrate our 25th anniversary,
HKUST has become one of the fastest rising universities in the world.
Grooming global leaders of tomorrow who make a difference,
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HONG KONG

ASIA COUNTRY FEATURES

The development and advancement of higher education in Hong Kong

By **Prof Peter Mathieson**

President

The University of Hong Kong



Hong Kong, a special administrative region (SAR) of the People's Republic of China with a population of just over seven million, has a complex tertiary education sector comprising eight government-funded higher education institutions (HEIs), ten non-government-funded HEIs, an Academy for Performing Arts, an Institute of Vocational Education, 17 sub-degree institutions and campuses of two American universities (Savannah College of Art and Design and the University of Chicago Booth School of Business which recently moved its Asia campus to Hong Kong from Singapore). I will focus on the government-funded HEIs which include my own. At the time of writing, seven of these have university status: these are the Chinese University of Hong Kong (CUHK), City University, Hong Kong Baptist University, Hong Kong Polytechnic University, Hong Kong University of Science and Technology (HKUST), Lingnan University and The University of Hong Kong (HKU). The eighth, Hong Kong Institute of Education, is currently applying for university status. Two, CUHK and HKU, are comprehensive universities. HKU was established in 1911 and remained Hong Kong's only university until 1963 when CUHK was established by the merger of three pre-existing Colleges.

The higher education sector in Hong Kong was not regarded as research-intensive until the last 25–30 years during which the establishment of HKUST in 1991 as a research-focused science and technology university, staffed predominantly by academic staff with previous overseas experience especially in the United States, was a direct manifestation of this shift towards research-intensivity. In 2014, the University Grants Committee, which manages government funding for the eight HEIs, undertook a Research Assessment Exercise which showed that overall, of the approximately 16,500 outputs submitted by some 4,400 eligible staff, almost half (46%) were rated by the international panels of experts as attaining international excellence (34%) or world leading (12%) standards, and the vast majority of the remainder attained "international standing" or "regional standing" (www.ugc.edu.hk). For the relatively young state of maturity of the HE sector in Hong Kong as a research-intensive sector,

these results demonstrate remarkable progress, although of course there are still further improvements to be made.

In recent years, tertiary education provision in Hong Kong has grown such that 80% of the relevant age group in Hong Kong now go on to some form of tertiary education, although the majority is in self-funded programs with only 18% in the government-funded degree-awarding institutions.

Higher education in Hong Kong must be seen in the geo-political context, and this is complex and ever-changing. Prior to 1997, Hong Kong was a British colony, and its higher education sector, along with other publicly funded activities, was modelled along the lines of the British equivalents. The 1984 Sino-British joint declaration set the plan for Hong Kong to become a SAR of China and the official handover came on July 1, 1997 as the 99-year lease of the New Territories expired. The principle of "one country, two systems" applies to the HE sector as it does to the whole of Hong Kong and states that for 50 years from 1997, i.e. until 2047, Hong Kong will enjoy a high degree of autonomy. Academic freedom and institutional autonomy are enshrined in article 137 of the Basic Law which governs Hong Kong's status.

Against this backdrop, it is clear that currently political opinion in Hong Kong is divided, as was evident from the reactions to the "Occupy" street protests of September to December 2014. Staff and students of secondary and tertiary education institutions were prominent amongst the protestors. The focus then moved onto the package of electoral reform proposed by the Hong Kong government, which was defeated in a vote in the Legislative Council in June 2015. More recently, the focus has moved again, now being on The University of Hong Kong and in particular the appointment of a vice president which has been complicated by contentious decisions taken by the University Council; a "storming" of the Council meeting by students, other protestors and large numbers of media representatives; an Extraordinary General Meeting of the Convocation which was attended by an unprecedented over 3,200 members; allegations of political interference; and, at the time of writing, still no decision on the appointment itself.

It is a great comfort to those of us doing our best to further the aspirations of the higher education sector in Hong Kong that despite these distractions, excellent work goes on and tangible progress is being made. The sector

is strong despite its small size: five of the eight government-funded HEIs feature prominently in the global rankings. To quote from www.topuniversities.com: "With three universities in Hong Kong ranked within the global top 50 and another three in the top 300, this dynamic and diverse city-state boasts one of the world's most impressive concentrations of internationally ranked institutions—a significant factor behind its inclusion among the world's top 10 cities for students." A 2014 UNESCO report on higher education in Asia is also informative (www.uis.unesco.org): Hong Kong's presence in top international league tables is relatively stable, given the rise of Mainland Chinese institutions and the slight decline in some that have traditionally been ranked very high in Asia, e.g. Japanese universities. Hong Kong's research and development (R&D) expenditure as a percentage of gross domestic product (GDP) grew slightly between 2001 and 2011, in which period the figure doubled for Mainland China. It is my firm opinion that Hong Kong's government-funded HEIs give excellent "value for money" for the public investment that they receive.



Ancient and modern at The University of Hong Kong

Education, including higher education, is highly prized in Asia (www.timeshighereducation.co.uk). The University of Hong Kong's original founding mission over a century ago was to be an English-speaking university for China and this remains true today. However, the university's activities and future ambitions are global in nature rather than regional. HKU has an international professoriate with more than 50% of its professoriate being non-local. In 2014, the university admitted over 3,900 non-local students, the highest headcount of any of the UGC-funded institutions and 39.7% of its total intake. HKU also had the largest headcount of outgoing exchange students. The university also has active links with hundreds of overseas HEIs, including joint degree programs with Sciences Po in France, University of Southern California in the United States and

University College London in the United Kingdom. The university has set the ambitious development plan that by 2019, 50% of its undergraduate students will have two opportunities for study or work outside Hong Kong, one in Mainland China and the other elsewhere in the world, and that by 2022 these opportunities be available to 100% of its undergraduates. The University of Hong Kong's research is globally significant: as of June 2014, 115 HKU professoriate staff were ranked by Thomson Reuters as being among the world's top 1% of scientists, based on the number of citations recorded for their publications (<http://sciencewatch.com>).



Challenges remain for the higher education sector in Hong Kong. There is serious gender inequity at university leadership level: in the eight government-funded Hong Kong HEIs, in 2014 there were 110 posts at dean level or above, amongst which only eight (7.3%) were held by women (www.universityworldnews.com). In April 2015 the University of Hong Kong was the first university in the world to launch on campus its commitment to the United Nations Women initiative HeForShe and I am proud to have been asked to be one of 10 university presidents worldwide to be designated as Impact Champions for this initiative (www.heforshe.org/impact). Together with the other Impact Champions who are heads of state and international corporate leaders, we will work to spread best practice and ensure that gender equity improves. Another challenge is fiscal: the higher education sector in Hong Kong enjoys substantial government funding but in terms of percentage of GDP we lag far behind (www.oecd-ilibrary.org).

Articulating the importance to Hong Kong of institutional autonomy and academic freedom remain important priorities for HEI leaders in Hong Kong. Continuing to attract the brightest and best students from Hong Kong, the region and the rest of the world, in addition to further development of policies and practices which support our wish to recruit and retain the best staff locally and internationally will be perennial challenges. Above all, we at HKU believe strongly in our global perspective and we consider it in Hong Kong's and Greater China's best interest that Hong Kong's universities are globally significant for their contributions to scholarship, higher education

and social policy. Hong Kong has long been regarded as a global hub, a bridge into and out of China and a key player in the Asian economy. Its universities have concomitant status and opportunities: we must not be complacent and we must strive for ever greater levels of excellence. We have unique opportunities in Mainland China as its rapid development progresses. It is my fervent hope that Hong Kong can seize these and not be deterred by short-term, parochial or narrow political considerations. We also have wonderful links, old and new, with the rest of the world and there are many reasons for believing that Hong Kong remains one of the most desirable destinations for those from all over the world who wish to work or study in higher education. For those that have never visited: please come and see for yourself all the wonders that Hong Kong has to offer. For those that have visited before: please keep coming back. For those that live in Hong Kong or Greater China: be proud of Hong Kong and its HEIs, they have great histories, major current dynamism and ambition, and very bright future potential. Welcome to Asia's world city!

Professor Peter Mathieson is the 15th president of the University of Hong Kong. Born and educated in the United Kingdom, he qualified in medicine from the University of London with first class honors in 1983. He was awarded a PhD by the University of Cambridge in 1992, and became director of studies for clinical medicine at Christ's College, Cambridge. In 1995, he became the foundation professor of renal medicine at the University of Bristol. Peter was elected fellow of the Academy of Medical Sciences in 1999. In 2007, he was elected as president of the Renal Association. After periods as head of the Department of Clinical Science at North Bristol and director of research and development for the North Bristol NHS Trust, in 2008 Peter was appointed dean of the Faculty of Medicine and Dentistry at the University of Bristol. He led the formation of Bristol Health Partners and was appointed as its founding director from 2012.



Studying goes on at the "Occupy" protest in Hong Kong, Sept–Dec 2014.

Making a Difference

A QS Showcase message from Professor Way Kuo, president of City University of Hong Kong



"In my view young people today need experience in the process of generating new knowledge, making their own discoveries, pursuing their own ideas and having the space, support and time to innovate."

Professor Way Kuo

President

Under the stewardship of Professor Way Kuo, City University of Hong Kong (CityU) has undergone a period of rapid transformation. Its overall world ranking and various subject rankings have risen dramatically since Professor Kuo joined CityU in 2008 from the USA where he was university distinguished professor, dean of engineering at the University of Tennessee and a member of the senior management team at Oak Ridge National Laboratory.

A great deal of CityU's recent success is due to Professor Kuo's personal philosophy concerning higher education. In his view young people today need experience in the process of generating new knowledge, making their own discoveries, pursuing their own ideas and having the space, support and time to innovate.

This emphasis on discovery and innovation, which is embedded in CityU's unique Discovery-enriched Curriculum, has been the hallmark

of Professor Kuo's academic career. A pioneer in reliability research of systems at their infant stage, he is renowned for his work in designing the reliability of electronics systems and nuclear energy, and has made breakthroughs in nano-reliability research.

On the basis of the impact of his research, he was elected to the US National Academy of Engineering at a young age. He is also a member of the US National Academy of Engineering; a member of Academia Sinica, Taiwan; a foreign member of the Chinese Academy of Engineering; and a foreign member of the Russian Academy of Engineering.

Among his personal motivations is the relatively straightforward concept of "making a difference". His own career in reliability, and his subsequent interests in regional engineering issues, especially in areas such as nuclear energy technology following events in March

2011 in Japan, have been characterized by a commitment to improving society.

This commitment is embodied in Professor Kuo's various initiatives since taking office at CityU. He founded Hong Kong's first School of Veterinary Medicine in collaboration with Cornell University, spearheaded a new Strategic Plan that emphasizes interdisciplinary, cross-cutting areas such as digital society, smart city and one health, and set up an Institute for Advanced Study that aims to extend the frontiers of knowledge in order to contribute to the solutions of real world problems.

These initiatives encapsulate Professor Kuo's vision for CityU to be a leading university for professional education in Asia, committed to the cross-fertilization and mutual enrichment of different cultures and intellectual traditions for human betterment.

Professional • Creative • For The World



CityU's Discovery-enriched Curriculum places discovery and innovation at the forefront of our professional programmes. The aim is to enhance our students' creativity and professional knowledge.

CityU has performed strongly in global rankings. According to QS, CityU is now 57th in universities worldwide, and is the 9th best university in Asia.

Making a Difference through Excellence in Research and Professional Education



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香港城市大學
City University of Hong Kong

專業 創新 胸懷全球
Professional•Creative
For The World

Opening Minds • Shaping the Future

A QS Showcase message from Professor Timothy W. Tong, president of PolyU



"We nurture the new generation of 'positive leaders' who will seize opportunities and create possibilities, shaping our future."

Professor Timothy W. Tong
President

The Hong Kong Polytechnic University (PolyU) is a university which transforms today's potential into tomorrow's accomplishments. Through its innovative higher learning model and relentless pursuit of knowledge creation, the university is committed to creating positive change in the world, which is reflected in its distinguishing brand promise for education and research—"Opening Minds • Shaping the Future".

The university is keen to shape a next generation who not only possess the skills and knowledge to excel in their chosen profession, but are also ready to serve the global community with a strong sense of social responsibility. Supported by the breadth and depth of its curriculum, PolyU's unique education approach includes the Service-Learning and Work-Integrated Education initiatives.

The university staunchly advocates Service-Learning to provide opportunities for students to gain a deeper understanding of society and those in need. All PolyU undergraduate students will have to take a mandatory three-credit Service-Learning subject through which they will apply their professional knowledge in serving the community. This experience will offer new perspectives to students on the world around them, while at the same time develop their leadership, communication and problem-solving skills.

In Professor Tong's view, Service-Learning is not just volunteer work. It's an integral part of a holistic education.

Nowadays, there is a trend of increasing complexity in business and industry environment. To better equip its graduates to meet future challenges, PolyU spares no effort to improve students' competitiveness and workplace readiness. Under the Work-Integrated Education component, the university provides students with vast internship opportunities in Hong Kong, the Chinese mainland and the wider world to develop their generic skills in a professional context. The experience is more than merely early career development, but exposure to real-world issues and innovative ways to tackle these problems..

As a dynamic, forward-looking institution, PolyU anticipates rather than simply responds to the world's needs. The university is determined to create value with interdisciplinary research, groundbreaking discoveries and far-reaching partnerships. Through its ever-expanding global network with academia, business and industry worldwide, PolyU leverages its research achievements to shape a better future.

Ranging from down-to-earth research improving human lives to up-in-space innovations impacting mankind, many of PolyU's projects are for the social good and are even life-saving.

The landscape of higher education in the global academia is fast-changing. Against this backdrop, PolyU is aspired to embrace challenges and step beyond as manifested in its vision: Be a leading university that excels in professional education, applied research and partnership for the betterment of Hong Kong, the nation and the world.

Professor Timothy W. Tong has been the president of PolyU since 2009. He received his BS degree in mechanical engineering from Oregon State University (OSU) and his MS and PhD, in the same discipline, from the University of California at Berkeley. Prior to taking up the presidency at PolyU, Professor Tong was dean of the School of Engineering and Applied Science at The George Washington University in the United States. Being an expert in the field of heat transfer, Professor Tong has been actively involved in addressing issues connected to energy use and sustainable development. He has published over 80 technical articles and edited seven conference proceedings. He is a fellow of the American Society of Mechanical Engineers, the Hong Kong Academy of Engineering Sciences and the International Thermal Conductivity Conference. Professor Tong was inducted into the Academy of Distinguished Engineers and the Engineering Hall of Fame by the College of Engineering of OSU in 2001 and 2010, respectively.



Turning Today's Potential into Tomorrow's Accomplishments

Dreams take flight at PolyU.

PolyU is a university that is building a sustainable future. We provide a unique, robust experience combining education and research to breathe life into ideas that shape lives.

Our innovative model of education combines professional knowledge with service-learning and real-world experience, with the objective of nurturing students who can excel in their chosen professions and serve as responsible global citizens.

We challenge boundaries and uncover knowledge that brings positive changes to the world. We find cures and fight poverty. We shape fashion trends and make the world greener.

If you're passionate about making the world a better place, we invite you to be part of our journey.



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

INDONESIA

ASIA COUNTRY FEATURES

UII – Values, Innovation, Perfection

A QS Showcase message from Dr Harsoyo, rector of Universitas Islam Indonesia



"As a pioneer of higher education in the country, Universitas Islam Indonesia is strongly rooted in the tradition of academic freedom, where the diversity of thoughts is highly respected. With a vibrant learning environment and a flair for innovation, we are committed to nurturing students to be innovative global leaders."

Dr Harsoyo

Rector

Universitas Islam Indonesia (UII) is one of the leading private universities in Indonesia. Inspired by the spirit of nationalism and guided by perennial values, UII was founded one month before the proclamation of Indonesian independence in 1945. UII now has been growing into a great place for learning. Located in the northern outskirt of Yogyakarta, the heart of Javanese culture, the main campus overlooks the stunning beauty of Merapi volcano, which is a perfect place to study.

Learning is discovering treasure within oneself. With 3 doctoral, 9 master's, 4 professional, 25 undergraduate, and 4 vocational programs covering a wide spectrum of knowledge, UII enables its students to discover their own treasures and achieve their bright future.

We realize that perfection is a fruit of lifetime innovations and tireless efforts. Internally, this

is carried out by providing modern facilities and maintaining quality assurance. To support the learning process, 10 libraries, 82 laboratories, and 27 research centers are provided for research and education. Meanwhile, a great masjid, bookstore, sport hall, auditoriums, hospital, and student convention center are among first-rate facilities available in UII campuses.

To ensure the highest standard of learning, UII puts quality firmly in place. As result, in 2009 the Government of Indonesia ranked UII first nationally in Quality Assurance. UII also earned the ISO 9001:2008 certificate as evidence of international recognition. In 2013, UII achieved A grade for its institutional accreditation by the Indonesian National Accreditation Board, which was the highest score among other private universities in Indonesia. UII is also named the winner of the Indonesia Green Awards on Green Campus category subsequently in 2012 and 2014.

Lastly, in 2015 the Government of Indonesia ranked UII in the top ten best universities in Indonesia for the fields of higher education management and organizational quality.

Aspiring to be a world-class university, UII develops extensive networks with prominent universities, such as Universiti Kebangsaan Malaysia; Hokkaido University, Japan; Solbridge International Business School, Korea; The University of Hawaii at Manoa, The United States; and Saxion University of Applied Sciences, Netherlands, to name a few.

The fruits of innovation are diverse. More than 80,000 UII alumnae are serving Indonesia and the world at large in many fields and many ways while maintaining professionalism and ethical values, to which UII vision is anchored.

INNOVATION, VALUES,
PERFECTION, ON +
PERFECTION, ON =
S, F, M, R, I, T, S

is meaningless,
without

U, I, I,



UNIVERSITAS
ISLAM
INDONESIA

In Universitas Islam Indonesia (UII) we strive for **perfection** through
innovation with the perennial **values** as our points of departure.

Universitas Indonesia: Building on Diversity toward Global Impact

A QS Showcase message from Prof Muhammad Anis, Rector of Universitas Indonesia



"UI offers higher education that reflects its strategic global position at the crossroad of two oceans and two continents with rich ethnic and biodiversity to progress science and technology globally."

Prof Dr Ir Muhammad Anis, M.Met

Rector

Welcome to the most magnificent campus in Indonesia. Founded in 1849, UI is one of the oldest universities in Asia and is steadily growing into a sophisticated multicultural and humanistic campus. Our goal is to be the center of excellence for knowledge, technology, and culture.

Committing to Eco Environment

Universitas Indonesia (UI) provides a supportive educational environment with all the facilities needed for optimal and rich learning experience. As a modern and diverse campus, UI is beautifully designed with tropical trees and lakes, offering a peaceful touch to the day dynamics of learning in the tropics. UI has two campuses; one is in the heart of Jakarta (Salemba campus) and the main campus is in the outskirt of Jakarta, (Depok campus). UI prioritizes ecological conservation by utilizing only 25% of our main campus total area for academic, research and student activities; while preserving the remaining 75% for forestation.

Striving for Excellence

UI's reputation as the leading research university in Indonesia is further solidified by its standing in the world rankings. Currently, UI is the only

Indonesian university listed in the top 100 universities in Asia and has been consistently ranked 1st in Indonesia. The university offers a wide array of scientific disciplines comprising of 13 faculties, one post-graduate program, and one vocational program. UI also provides international undergraduate program with double degree offerings from UI's partner universities, such as University of Queensland, Monash University, University of Groningen, and others. UI continues to strive for excellence in educational quality, as indicated by learning and research outcomes, highly qualified instructors, diverse international experiences for students, as well as outstanding recreational and sporting facilities.

Finding Solutions for Global Challenges through Research and Education

Many modern universities are well positioned to address the world's most pressing challenges and to prepare its future leaders. I am convinced that UI has a unique position in the global landscape. In addition to, being home to the world's largest Muslim population, the world's 3rd largest democracy, and the 16th largest global economy; Indonesia location inherits a rich population of ethnic groups and biodiversity. Indonesia has become an exciting and unique research laboratory for many contemporary

global issues. In fact, Indonesia is facing crucial challenges pertaining to its environmental and energy sustainability, healthcare, human capital development, fledgling democracy, and stable economic development. Considering the context, UI is fully committed to seek the breakthrough and provide solutions. So whether your institutional strength and interest lie in the field stem cell research or marine technology, whether you are inquisitive over climate change challenges or contemplating about indigenous studies and policy studies, we invite you to be part of our international partners in improving our global society.

Global Fact : we are facing challenges

Climate Change



Renewable Energy



Public Health



Democracy



Market Integration



Social Welfare



Biodiversity



Indonesia is the best laboratorium for these issues

UNIVERSITAS INDONESIA
Absolutely Indonesia

Universitas Indonesia is dedicated to promote science, technology, health, economy, law, culture, arts, and societal welfare. We are strategically positioned at the center of Indonesia, proudly representing the very best of Indonesia through development, diversity and unity.

As the leading university in Indonesia, Universitas Indonesia is striving to be a world class university in every way. In its efforts to help address the world's most pressing problems, Universitas Indonesia is delighted to collaborate with its academic and industry partners from all over the world.

www.ui.ac.id/en



JAPAN

ASIA COUNTRY FEATURES

Toward the three-type categorization of the Japanese national universities

By **Prof Mitsuo Ochi**

President

Hiroshima University



The world has transformed into a knowledge-based society—an era of great global competition for knowledge. This irreversible trend is one of the reasons why the Japanese government has recently proposed the three-type categorization of the national universities in Japan. The government stated that, with one of the three categories to realize Japanese higher education's environment in education and research at the international level, Japan would aim to make ten of its universities ranked among the top 100 in the world university rankings within ten years. As an established comprehensive research university in Japan, Hiroshima University could not help but address its readiness to be part of this national aspiration.

Nevertheless, I argue that attempting to become among the top 100 in the world should never be our ends but means. I would like to emphasize that my university continues to strive to become a leading global university solely for the ultimate purpose of producing the human resources who can significantly contribute to the world's future and prosperity. Below, bearing these beliefs in mind, I overview some major trends with which Japanese national universities currently have to cope.

Background of Japanese universities

Many countries in the world have started to regard their universities as the bases for the creation of knowledge, and are taking various actions to enhance their universities' international competitiveness. Japan, too, has consistently aimed to foster its core universities with international competitiveness. This direction has been represented by a variety of nationally funded programs: from the 21st Century Center of Excellence (COE) Program, which started in 2004, to the Program for Promoting the Enhancement of Research Universities, which started in 2013.

However, according to the recent QS World University Rankings 2015/16,

the University of Tokyo, which is regarded as the best university in Japan, was ranked 39th; and only eight Japanese universities were listed in the top 200 universities in the world. This poor Japanese performance in the international university rankings results from the stagnant production of academic papers in Japan. Indeed, Japan's share in academic paper production in the world has significantly decreased.

Furthermore, given the rapid development of socio-economic globalization, Japanese higher education cannot help but restructure itself by nurturing globally competitive human resources and internationalizing its activities in education and research. In response to these circumstances, the Japanese government announced the "300,000 International Students Plan" in 2008. Further, the Japanese government has continued to develop active globalization measures, including the Top Global University Project ("Super Global University Project" in Japanese), which was launched in 2014 to enhance the Japanese higher education institutions' international competitiveness.

Top Global University Project – Type A aims to enhance Japanese higher education's international competitiveness, and has selected the following top 13 Japanese universities which provide the highest level of research and education (in alphabetical order): Hiroshima University, Hokkaido University, Keio University, Kyoto University, Kyushu University, Nagoya University, Osaka University, Tohoku University, Tokyo Institute of Technology, Tokyo Medical and Dental University, Tsukuba University, University of Tokyo, and Waseda University. Another 24 universities have been selected as Type-B institutions to lead the internationalization of Japanese universities through pioneering efforts.

Nevertheless, as the number of international students in Japan has shown signs of leveling off in recent years, the government's attempts have not been as successful as planned.

At the same time, the college-age population in Japan is expected to drop to below 1 million in the coming 20 years. In the early 1990s, this population was over 2 million with the second baby-boom generation. Recently, however, there has been a natural and continuing decline to about 1.2 million. As a result, it is argued that Japanese higher education has transitioned from the stage of mass higher education to that of universal higher education,

with the ratio of students who go on to universities above 50%, compared to less than 40% in the beginning of the 1990s. This transition has seen the diversification of the newly enrolled students at universities (including the lowering of academic ability) and the intensified competition for those prospective students in Japan.

Moreover, Japan's fragile financial condition has been a national challenge and has increased the society's pressure to reduce funding for higher education. As will be discussed below in the context of corporatization of national universities since 2004, this situation has caused the primary governmental funding to the national universities' operation (namely, the National Government Subsidies for Operating Expenses and Facility Maintenance) to be cut down by 1% to 1.6 % annually.



Higashi-Hiroshima Campus

Changes in policies for Japanese national universities

In 2004, with the above-mentioned changes in the socio-economic structure in Japan, all the national universities, which had been under the national government's direct control, were transformed into national university corporations. The main objectives of this transformation were: developing universities with individuality and internationally competitive education and research; stressing accountability to the public and society and introducing the principle of competition; and realizing dynamic and strategic university administration by clarifying management responsibility. Since then, the Japanese government has continued to promote restructuring the system of the national universities as autonomous institutions. Every six years there is a unit of evaluation period so that these universities can adjust to the new environment.

One of the most important policies imposed on the national universities since the incorporation is The National University Reform Plan, which was adopted in 2013. This plan, which took into account recent socio-economic changes and a Central Council for Education Report, proposed various

measures to be taken for the Third Period of the Mid-term Objectives/Plan, which is about to start. These included the measures for: maximizing the strengths and profiles of each national university, promoting internationalization, making efforts to reinforce innovative creativity, allowing more flexibility in the human resource and salary systems, and strengthening the governance. The plan also indicated three concrete functional directions to be chosen by each national university, by enhancing its own strength and profile. The directions were: developing educational and research bases at an international level; national educational and research bases; and core bases for regional invigoration.

Furthermore, The Strategy for the National University Management Capability was defined in June 2015. In addition to the functional enhancement of the national universities promoted by the above-mentioned plan, this strategy spells out the basic directions toward various policy fields, such as organizational realignment to drive self-transformation and metabolism, advancement of collaboration and alliance between institutions and disciplines, and strengthening of the financial bases. On top of that, this strategy mentions new programs such as the Graduate Schools of Excellence, which are designed to train doctors capable of developing new research areas and industries; and the Specified Research Universities, which are designed to form universities with internationally competitive resources and management capability.

Parallel with this successive policy development, the Ministry of Education, Culture, Sports, Science and Technology – Japan (MEXT) has been in the process of categorizing national universities into the three types in effect by implementing the following four programs/projects: (1) Program for Promoting the Enhancement of Research Universities, which is designed to create world-class research universities (annually 200 to 400 million yen per institution for 10 years since 2013); (2) Top Global University Project, which aims to help selected institutions globalize themselves to become world-class universities in research and education (annually 420 million yen per Type-A institution and 172 million yen per Type-B institution for 10 years since 2014); (3) Acceleration Program for University Education Rebuilding, which helps selected universities seek innovative educational reforms (annually 20 to 28 million yen per institution for five years since 2014); and (4) Program for the Center of Community, which supports selected universities with their strong contributions to the community (annually 50 million yen per institution for five years since 2013).

Hiroshima University as a Type-A institution under the Top Global University Project

In 2014, Hiroshima University was selected for the Top Global University Project. As one of the project's Type-A institutions, Hiroshima University is attempting to enhance its research capability by improving and internationalizing education offerings. These attempts include rapid internationalization of the programs at Hiroshima University to help it

become a leading research institution in Japan, and international quality assurance of education through participation in the Student Experience in the Research University (SERU) project, organized by a consortium of the world-class research universities. In order to promote the project, we are seeking the best allocation of staff and resources within the university, based on the analysis of our newly developed Achievement-motivated Key Performance Indicators (A-KPI) to realize strategic management for making the best use of our university's strengths and profiles.

Under this MEXT-funded program, about 10 University Research Administrators (URAs) have been newly employed by the university for the purpose of improving the research environment and supporting research activities. The program has supported a variety of actions to enhance its research capability; for example, the university is identifying promising research initiatives by groups of excellent researchers within and outside of Hiroshima University. Given these two major grants from MEXT in recent years, as far as the three-type categorization mentioned above is concerned, Hiroshima University has intended to identify itself as an institution in

pursuit of excellence in education, research, and social implementation at the international level equal to the excellent institutions around the world.

After graduating from Hiroshima University (1977), Ochi joined the Orthopedics Department at Hiroshima University Hospital and later became a professor at the Graduate School of Biomedical and Health Sciences (2002). Since then, he has also been a visiting professor at medical schools around the world. He developed a 3D self-cultured cartilage transplant method, under which cells extracted from a patient with knee cartilage damage are cultured and then transplanted to the patient. It became the first Japanese-developed regenerative medicine therapy eligible for public insurance. Additionally, Ochi received the President's Prize of the Science Council of Japan (2004); the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (2010); the Chugoku Cultural Award (2012); the Minister of Health, Labour and Welfare Award (2014); and Japan's Purple Ribbon Medal (2015). Ochi is also involved in the prevention and treatment of injuries on Hiroshima-based professional sports teams.

KAZAKHSTAN

ASIA COUNTRY FEATURES

Globalization of Kazakh medical education

By **Mrs Duisenova Tamara**

Minister of Health and Social Development
Republic of Kazakhstan



In the context of integration and globalization of the world community, all governments seek to develop the education system that focuses not only on the country's domestic needs, but also on obtaining international recognition. And one of the embedded tools of universities' identification in recent years is the world university rankings.

As part of the goal set by the President Nazarbayev, whereas Kazakhstan has to join the 30 developed countries of the world, the main guidelines for the higher education of

the republic are the innovation and implementation of research findings into industry. Systematic approach in this direction will allow domestic universities to take its rightful positions in the rankings of the best universities in the world.

The year 2012 was a starting point of a new period for Kazakhstan to develop its higher education system when two national universities were ranked among the world's top 400 in the QS World University Rankings.

Owing to the integration into the international educational area, the medical universities in Kazakhstan are developing according to the main provisions of the Bologna Declaration. As part of the national strategy, systematic work is carried out in the country to improve the quality of medical education.

During the reform of medical education the medical schools have changed their organizational and legal form gaining more autonomy: corporate form of management has been implemented at all medical schools; measures have been taken to strengthen the institutional capacity and facilities of medical schools; clinical skills centers have been created at all state medical schools; research laboratories and medical equipment for the study of basic science disciplines have been acquired; and in 2012 research laboratories of collective use were established at two state medical universities, which have strengthened medical universities' clinical capacities. The republic's budget for these reforms has amounted to over KZT 4 billion (approximately US\$13 million). In addition, a center for independent assessment of knowledge and skills of the medical schools

graduates, colleges and practicing health professionals has been created. Also, the Ministry of Health and Social Development has formed a strategic cooperation with the National Board of Medical Examiners (NBME), USA, to increase the capacity of this said center. Furthermore, the training of health professionals, including the academic staff, with innovative management, educational, therapeutic and diagnostic technologies, involving leading experts from all over the world, is continuing.

The external evaluation and accreditation of medical schools in Kazakhstan have been carried out, involving the World Federation for Medical Education (WFME) and the Association of Medical Schools in Europe. Kazakhstan medical schools have been included in the World Database of WFME/WHO "Avicenna Directory".

Nazarbayev University (NU), created on the initiative of the President of the Kazakhstan in 2010, is a national brand harmoniously combining Kazakhstan's identity, providing the country's best international educational model and research. The academic process at the university is based on international educational standards, which contributes to the advancement of the education system of the Republic of Kazakhstan and takes it to the international level. This is the first university in Kazakhstan that is committed to working according to international academic standards and guided by the principles of autonomy and academic freedom. The School of Medicine at Nazarbayev University was opened in collaboration with the University of Pittsburgh (USA) in 2015. The National Medical Holding has JSI accreditation and is used as the clinical training ground for NU's new medical school. The National Medical Holding was set up in 2008 by a government resolution as a fully state-owned organization. The holding includes six innovative health institutions located within the territory of Astana's medical cluster; these are: the National Research Centre for Maternal and Child Health, the Republican Children's Rehabilitation Centre, the Republic Diagnostic Centre, the Republican Research Centre for Neurosurgery, the Republican Research Centre for Emergency Medicine, and the National Research Centre for Cardiac Surgery.

Thus, the main strengths of the medical schools in Kazakhstan are: integration into the European higher educational and research area and implementation of a three-cycle education system; establishment of Nazarbayev University in accordance with the principles of world-class universities; creation of a medical education quality assurance system; development of national institutional accreditation standards based on

the World Federation for Medical Education Global Standards for Quality Improvement; improvement of the medical and pharmaceutical education management and financing system; and introduction of a faculty capacity building system in medical schools with the implementation of the national competence-based educational program.

However, when analyzing the results of QS World University Rankings, it was found that the lowest values of Kazakhstani universities are marked with respect to academic reputation (academic survey), citation per faculty, and the ratio of international faculty and students to local counterparts. To reach the equal position with leading universities the following is required: transforming the management system of medical schools expanding their financial, institutional and academic autonomy; building the research capacity of universities and actively publishing in high impact-factor journals; and having a positive academic reputation at the international level through the development of partnerships with top universities and academic communities.

It is clear that entry into the world rankings is not an end in itself, but it is nevertheless an effective mechanism of motivation to improve all areas of activity of universities and ensuring competitiveness of health professionals at the international level. In this regard, the Kazakhstan Ministry of Health and Social Development jointly with medical schools in the country have developed the draft of the Concept of Development and Recognition of Kazakhstan universities to be ranked at QS World University Rankings 2023.

Medical science in the country is being developed within the implementation of the Concept of Development of Medical Research in the Republic of Kazakhstan 2020, the main aim of which is to achieve the competitive development in the domestic medical research, based on their implementation of advanced medical technologies to preserve and improve the nation's health. The new innovative technologies, adopted in domestic clinics, are successfully applied in Kazakhstan's regional clinics—over 100 medical technologies in neurosurgery, cardiac surgery, otolaryngology, traumatology, oncology, and extra corporal fertilization (ECF).

The Centre for Life Sciences of the Nazarbayev University as research complex has been created for the research in regenerative medicine, molecular biology and cell technology. At this complex the advanced technologies in the field of artificial heart and lung, cell surgery, radiosurgery and others are to be developed and introduced into clinical practice.

The effectiveness of research and the availability of effective mechanisms of scientific developments transfer directly determine the level of the national economy's innovative activity. In this regard, the criterion for assessing the efficiency of the research outputs is used in all world universities rankings.

One of the key performance indicators of medical science is the introduction

of scientific research into health care. In recent years, Kazakhstan has had positive growth of the number of patents in the field of health care. In 2007, the international patents was equal to 0%; in 2014 this indicator was 6.03% in relation to the total number of patents. Also a clear increase is noted in the number of acts of implementation in practice—989 in 2007; compared to 1263 by 2014.

Publications in internationally recognized peer-reviewed journals included in authoritative databases of scientific information are the recognized indicators of research activity and assessment of the research quality. Despite the fact that over the last 10 years research activity of domestic scientists-physicians has increased more than threefold in terms of international publications, their published level in the peer-reviewed journals is still insufficient.

The recent years have seen a gradual increase in financing the medical research. The total amount of funds raised by domestic organizations of medical research in 2014 was KZT 6 billion (approximately US\$19.5 million), including the proportion of funding from the state budget for 50.8%. The proportion from non-budgetary sources—international grants, funding from private companies, and self-financing made up 50.2%. The funds allocated by the state budget for research allocated to the projects in priority research areas were approved at the national level. Strategy "Kazakhstan-2050" provides for the increase in funding for research for up to 2% of GDP by 2020.

Today the infrastructure of the university health science in Kazakhstan is presented by six medical universities and two organizations of postgraduate education with advanced material and technical facilities. Molecular and genetic laboratories of collective use function at two medical universities since 2012 and provide access to modern devices for students, postgraduates, PhD students and young scientists for research. To improve the quality of research as well as capacity of the scientists in Kazakhstan it is necessary to actively attract overseas colleagues to conduct joint research based on scientific laboratories in Kazakhstan's medical schools. In this regard, split-PhD programs will be implemented by 2016 under the "Bolashak" Scholarship Programme. It should be noted that under the President Scholarship Programme, introduced over 20 years ago at the request of President Nazarbayev, more than 10,000 specialists have been trained abroad; the share of the field of medicine is 600 people (postgraduate, PhD, and internship programs). This cohort of young professionals with quality education, according to international standards, is also a bridge for building long-term relationships with leading universities around the world through their thesis supervisors, teachers, colleagues and others.

At the present time the draft of new "Densaulyk" State Health Development Programme of the Republic of Kazakhstan for 2016–2020 is being developed, and one of the strategic directions of the program is the modernization of medical education and research. For effective implementation of this

direction, it is necessary to ensure accelerated integration into the world research and educational system. Medical education in the 21st century is characterized by the integration and rapid joining of all known education models, and the intensification of international cooperation. In this regard, transition of health professionals training in English language is very important. This will require from students to study English and have the level sufficient to obtain and maintain knowledge and skills in both research and clinical practice.

Increasing the institutional autonomy of medical schools will be introduced in accordance with the experience of the world's best medical schools. For this purpose, academic mobility programs with leading medical schools will be arranged for students, faculty and researchers exchange. Furthermore, the practice of involving international faculty in the educational process will be developed. Also in the pipeline are long-term strategies for developing the innovative capacity of biomedical and medical sciences that are based on the strategic objectives of Kazakhstan's social and economic development, and long-term plans for scientific and technical development of the health sector—Innovative Health: Vision 2030. The priority for development of the domestic medical research will be the modernization of its methodological approach based on the transfer of advanced international standards and concepts. For this purpose, great attention will be paid to the integration of domestic research programs and projects with international involvement of our projects in the programs of international multi-center research will be stimulated.

Regarding the support of the students' health at the Kazakhstan universities, it should be noted that according to the Code of the Republic of Kazakhstan "On People's Health and the Health care System", all Kazakh citizens have the right to guaranteed medical care. Health Care Regional Departments including departments in Astana and Almaty have identified polyclinics that provide medical care to students.

Mrs Tamara Duisenova graduated the Tashkent Institute of National Economy in 1987, Candidate of Economic Sciences. She was an economist at the Research Institute of Economics and Standards at the State Planning Committee of the Uzbek SSR from 1988 to 1992, senior economist at Saryagash District administration in southern Kazakhstan from 1992 to 1993; chair of the Department of the Perizat Holding Company in 1993 and 1994; and deputy and first deputy mayor of Saryagash District from 1994 to 1997. She was appointed as first deputy mayor of Shymkent city in 1997 and the deputy mayor of South Kazakhstan region in 1999. Mrs Duisenova became deputy mayor of South Kazakhstan region in 2006, and executive secretary of the Ministry of Labour and Social Protection of Kazakhstan in 2008. Mrs Tamara Duisenova was appointed as minister of healthcare and social development of the Republic of Kazakhstan in August 6, 2014; the post she currently holds.

MACAU

ASIA COUNTRY FEATURES

The New Campus of the University of Macau is not a Miracle

A QS Showcase message from Professor Wei Zhao, rector of the University of Macau



"Our mission of higher education is to let the youth be free. UMacau's '4-in-1' pedagogical model, residential college system, and multi-cultural new campus enable students to discover themselves—the first step necessary to acquire their full freedom."

Professor Wei Zhao

Rector

Professor Wei Zhao completed his undergraduate studies at Shaanxi Normal University, China, and received his MSc and PhD degrees in computer and information sciences at the University of Massachusetts at Amherst, USA. Before joining the University of Macau (UMacau), Professor Zhao served as the director of the Division of Computer and Network Systems at the US National Science Foundation, the dean of science at Rensselaer Polytechnic Institute, and the senior associate vice president of research at Texas A&M University.

An IEEE fellow, Professor Zhao is internationally acclaimed for his research in the areas of Internet of Things, distributed computing, and cyber-physical systems. His research team has won numerous awards from the international research community. He was the associate editor for the "China Science Bulletin" and has served on editorial boards of technical journals, including the IEEE Transactions on Computers and the IEEE

Transactions on Parallel and Distributed Systems. He is the chair for the IEEE Technical Committee of Real-Time Systems. In 2011, he was appointed by the Chinese Ministry of Science and Technology as the Chief Scientist of the Internet of Things—a national 973 project.

In recognition of his outstanding achievements in scientific research and contributions to higher education, he has been conferred honorary doctorate degrees by 12 world-renowned universities. In 2012, he was elected to be Academician of the International Eurasian Academy of Sciences.

Since Professor Zhao's arrival in 2008, UMacau has made tremendous progress towards its goal. A brand new campus with more than 60 buildings and US\$2 billion investment has been successfully erected and is now fully operational. An endowment foundation has acquired more than US\$200 million in committed

donations. The university implements a unique and innovative "4-in-1" pedagogical model, integrating discipline-specific education, general education, research or internship education, and community and peer education. UMacau has become the first in Asia to fully adopt a residential college system, and its research outcome has increased over 500% over the past seven years. UMacau is now recognized as being among the fastest growing universities in the world.

UMacau aims to enhance its impact and standing by consolidating and expanding its international and community networks and by creating a culture of caring and support. In 2014, UMacau was elected as the president of the Association of Portuguese Speaking Universities (AULP). UMacau has been ranked 39th in the Times Higher Education (THE) 100 under 50 Universities 2014/2015 and 40th in the THE Asia University Rankings 2015.



澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU



The new campus of the University of Macau is not a miracle

The University of Macau (UM) is the best public university in Macao.

UM has become one of the fastest-growing universities in Asia in recent years. In 2014 UM relocated to a spectacular new campus covering 1.09 square kilometres. The university implements a unique '4-in-1' pedagogical model, and is the first university in Asia to implement a complete residential college system, which is also the largest such system in Asia. Its research outcome has increased more than 500% over the past seven years.

In 2014, UM was elected the president of the Association of Portuguese Speaking Universities (AULP). The Times Higher Education (THE) has ranked UM No 39 among the world's top 100 young universities. UM has established partnerships with over 200 academic institutions in order to provide students with horizon-broadening international experiences.

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MALAYSIA

ASIA COUNTRY FEATURES

TVET in Malaysia: roles of Malaysian technical universities

By **Prof Emeritus Kamarudin Hussin**

Vice Chancellor

Universiti Malaysia Perlis



including tertiary education.

Malaysia is set to transform towards a high-income nation by the year 2020. The 11th Malaysia Plan covering 2015–2020, which has charted accelerating human capital development, is among the thrusts towards Vision 2020. The key strategy articulated in the recent plan is to shift TVET towards industry-led programs to produce highly skilled talents to meet industry needs. This shift has been identified as one of the 6 game changers listed in the 11th Malaysia Plan. Malaysia is expected to create more than 900,000 jobs in technical and vocational sphere as stated in the plan. In this context, Malaysia enormously needs strong strategies embedded in a firm framework to develop skilled workforce required for the country's economic transformation.

Role of universities in TVET

Universities are expected to play dynamic and innovative roles in producing highly skilled workers through TVET. Malaysia Education Blueprint (Higher Education) has set detailed initiatives and action plan relating TVET education with the country's manpower needs in the 21st century. The blueprint also encompasses strategies and action plans required towards broadening access to TVET. Malaysia is expected to increase annual intake of students and trainees from 164,000 in 2013, to 225,000 in 2020 and 650,000 by 2025. This involves total participation of TVET providers comprising of primary and secondary education, vocational schools and colleges, community colleges, polytechnics and universities. Students in

Malaysia's education system recognized importance on TVET more than two decades ago. Unfortunately, strong emphasis of technical and vocational education (TVE) is given to provide more opportunities for school dropouts. Over the years, TVE is perceived as second-class education by Malaysians in general. Roles and responsibilities to implement TVE is mainly given to secondary schools, training institutes and training agencies. Recent strategies and frameworks underlined broader roles and responsibilities by additional institutions and agencies

TVE mainstreams will be provided with opportunities for quality training programs and access to higher education at more than 91 community colleges, 33 polytechnics and 4 technical universities across the country.

Role of universities is dynamically linked to national and socio-economic development strategies. Universities are converging towards producing highly skilled graduates to boost economic development through National Key Economic Areas (NKEA). This covered 12 dedicated areas; Greater Kuala Lumpur and Klang Valley, Oil, gas and energy, palm oil and rubber, wholesale and retail, financial services, tourism, electronics and electrical, business services, communication contents and infrastructure, education, agriculture, and healthcare. Development in NKEA requires universities to enhance TVET curriculum which are relevant to industrial needs through new cooperation model with industries.

Hence, universities are seen to be contributing significantly in enhancing technical and vocational training towards meeting the targeted 70% skilled and competent workforce by 2020 from 30% currently. Universities are providing excellent platforms for continuing education and training for employers, employees, community and society at large. This covers courses and trainings for further education, skills upgrading, retraining, career advancement and enrichment.

Malaysian technical universities

Malaysian Technical Universities or MTUN comprise four universities: Universiti Malaysia Perlis (UniMAP), Universiti Malaysia Pahang (UMP), Universiti Teknikal Malaysia Melaka (UTeM) and Universiti Teknologi Tun Hussein Onn Malaysia (UTHM). MTUN is the outcome of the National Technical University System which was developed based on models such as the "fachhochscule" (FH) in Germany and the polytechnic university system in Hong Kong. A practicality-oriented approach in this model implies that students have opportunities to engage in intensive practical sessions. Hence, the main feature of this approach is towards preparing students for applications-related schooling for professions which require the application of academic knowledge and methods.

TVET delivery in Malaysia has involved government ministries and agencies, universities, state skills development centers and privately owned institutions. It is well accepted that MTUN is playing a pivotal role

in providing degree qualification for TVET. As such, MTUN is focusing on providing access to highly demanded and impactful TVET programs to cater to the nation's industrial needs. One of its high impact initiatives includes offering of engineering technology courses. In 2014, it was recorded that 37 engineering courses were offered by MTUN (11th Malaysia Plan). These courses are designed to equip students with both theoretical knowledge and psychomotor skill training that industries expect from them.

Moreover, engineering programs offered by MTUN are expected to enhance graduate employability, providing attractive career pathways and further educational opportunities. This progress marks MTUN continuing effort toward increasing the number and proportion of bachelor degree programs in engineering technology by 75% in year 2020, offering more opportunities for TVET diploma graduates to further their studies. In this context, MTUN will continue to serve as feeder universities for TVET graduates, including those from community colleges and polytechnics by offering various technical and vocational courses at diploma and degree levels respectively.

Industry-led curriculum

Industries have been involved in formulating and designing the curriculum; theoretical knowledge and skill training are balanced in curricula, and inputs from industries are shared through various forums and discussions with faculty members. Furthermore, frequent lectures are delivered by the experience personnel from the relevant industries, in addition to excellent academic qualifications and recruitment of faculty members with industrial background and experience. Delivery of psychomotor elements has been supported by teaching engineers, a position that is unique for MTUN. Teaching engineers with industrial experience add value to content delivery especially in promoting practical intelligence. It is worth noting that TVET graduates in MTUN universities get engaged with research projects supervised by talented researchers. The research undertaken uses the state-of-the-art facilities and equipment.

It is important for universities under MTUN umbrella to establish effective collaboration with industries to provide TVET students with academic as well as hands-on experience. MTUN certainly requires undivided support and cooperation from the industry in many ways in order to provide excellent educational experience with an emphasis on applied engineering, communication, teamwork and provision of solutions for industries. Industries across Malaysia, on the other hand, are supporting MTUN in many approaches covering industrial training programs, industrial exposure programs, engineering entrepreneurial programs, industrial visits and many others. Most importantly, industries are dynamically and actively involved in TVET program delivery in MTUN universities. Graduates are exposed to industries for training at a longer duration of six months

prior to graduation. At the point of graduation, students are expected to have seamless transition from study to the work place. Graduates from MTUN are highly recognized among industries owing to their attributes and competencies that bridge the gap between demand and supply required by the industries.

Hands-on experience in handling engineering equipment, software and machineries are vital in order to produce highly skilled TVET graduates. MTUN universities are blessed with opportunities to develop state-of-the-art engineering labs to provide excellent laboratory experience that help students to acquire practical intelligence. Realizing the importance of technical knowledge for TVET graduates, MTUN universities are collaborating with industries to sustain its capabilities in providing instructional laboratories for a wider group of students. MTUN leaders expect more funding, sponsors and resources from their industrial partners to boost technological advancement to elevate quality of TVET graduates.

Promoting TVET courses

MTUN offers competitive TVET courses in various disciplines, namely electronics, mechanical, civil, chemical and many others. Courses in specific areas were designed specifically to match the industry demands. However, perceptions from prospective students and parents are limited towards conventional and popular courses. MTUN universities are focusing towards promoting relevant courses through outreach programs covering schools, polytechnics and training institutes.

Professor Emeritus Datuk Dr Kamarudin Hussin is the longest-serving vice chancellor in public universities in Malaysia. He was appointed as vice chancellor of Universiti Malaysia Perlis (UniMAP) in 2002. Professor Kamarudin is passionate about playing a vital and strategic leadership role toward producing exceptionally talented graduates that serve the nation. His remarkable achievement towards promoting sporting excellence made it possible for UniMAP to be selected as the first Malaysian university to organize World University Woodball Championship in October 2014. His long-term vision toward generating high-impact research has resulted in numerous achievements in research and innovations for the university. Within 12 years, Professor Kamarudin has transformed himself into a prominent researcher in materials engineering, geopolymers and green technology with more than 300 Scopus-indexed publications. He has won many awards at national, regional and international levels, including Best Manager of the Year (European Business Assembly), The Name of Science (EBA), The BIZZ Winner 2014 – Peak of Success, Grand Order of Merit (World Inventor Award Festival 2012) and many others. Dr Kamarudin Hussin is the first vice chancellor to be chosen as recipient of Top Research Scientist Malaysia 2014 by Akademi Sains Malaysia (ASM).

Journey towards World-Class Excellence

A QS Showcase message from Prof Emeritus Datuk Dr Kamarudin Hussin, vice chancellor of Universiti Malaysia Perlis



"Change from your comfort zone into competitive zone. Change from working with a silo mentality into working in groups. Change from being a character who is easily satisfied in old methods of performing inefficiently into someone who constantly looks out for new and better methods."

Dr Kamarudin Hussin

Vice Chancellor

DRIVING CHANGE

It is clearly understood by UniMAP community that the word CHANGE reflected beyond behavioral perspectives. Since 2015, WE POSITIVELY CHANGE was determined as the university's strategic tagline towards achieving our strategic goal; to become a top 500 university by year 2020. WE represents world-class excellence while each alphabet in the word CHANGE signifies six strategic thrusts as pillar of excellence for UniMAP: Conducive Ecosystems, High Impact Research, Academically Eminent, Notable Wealth Creation, Governance Efficiency and Exceptionally Talented Graduates. Throughout the years, Kamarudin Hussin clearly demonstrated the importance of teamwork, strategic leadership, core values, creative and innovative approaches, blue ocean strategies, networking and collaboration, enterprising minds and continuous monitoring process as part of recipes of success for UniMAP.

MAPPING THE FUTURE

UniMAP as a new generation university distinctly inspires others by leading the way in numerous strategic directions towards world-class excellence. In 2014, UniMAP became the first public university in Malaysia to be recognized by QS Stars Ratings System as a 5-stars university for teaching and facilities. This momentous achievement was celebrated and recognized by

the Malaysian prime minister, The Honourable Dato' Sri Mohd Najib Tun Abdul Razak, and Ministry of Higher Education, Malaysia. More Malaysian universities were encouraged to measure their performances against world-class indicators through QS Stars ratings system. Since its establishment as part of Malaysian Technical Universities, UniMAP accomplished many success stories in research and innovations. In January 2016, UniMAP was recognized by Ministry of Higher Education as a 4-star University in Malaysian Research Assessment (MyRA) 2015 on par with other established universities with longer history. UniMAP is ranked among top 10 Malaysian universities with competitive number of publication output through Scopus database. On international stage, our prominent researchers and young scientists are collaborating with researchers from more than 170 institutions across the globe. Professor Kamarudin is committed towards creating excellent research culture of which research findings are extensively used in teaching to provide an exciting intellectual experience for UniMAP students.

Professor Emeritus Kamarudin Hussin believes that UniMAP must provide ultimate campus life experience to generate balanced graduates for the nation and global community. Public-Private Partnership (PPP) approach was optimized by UniMAP to develop conducive and modern campus for engineering technology courses and programs. The UniCITI Campus showcases world-

class accommodation facilities, surrounded by academic, business and leisure hub for students. UniCITI Campus offers convenient access to convenience stores, medical clinic, pharmacy, gymnasiums, restaurants, and a wide variety of student services. This is related to value added management strategies aim to enhance opportunities for learning experience through active involvement in sports and recreations, culture, entrepreneurial programs. Development of UniCITI Campus marks another success stories for UniMAP and has becoming new benchmark and best practices in infrastructure development for public universities in Malaysia. It is designed to attract both local and international students to join as UniMAP community and to experience fascinating campus life.

UniMAP is committed to enhance its international visibility through prestigious platforms including hosting of the 12th QS Asia-Pacific Professional Leadership in Education (QS-APPLE) 2016 in Putrajaya International Convention Centre (PICC), Putrajaya, Malaysia. Next year, UniMAP and Higher Colleges of Technology (HCT), Abu Dhabi will be hosting the 7th QS-MAPLE 2017 in Dubai. Professor Emeritus Kamarudin Hussin is honored and delighted to welcome educators, researchers, administrators and leaders across the globe to join us in Putrajaya and contribute significantly towards development of higher education in Asia-Pacific. A warm welcome to Malaysia from Universiti Malaysia Perlis!



Unimap

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UCSI University – Go Beyond; Be Profound; Make a Difference

A QS Showcase profile of Dr Khalid Yusoff, vice chancellor and president of UCSI University



"Push the university further and higher..."

Senior Professor Dato' Dr Khalid Yusoff, FASc

Vice Chancellor and President

Senior Professor Dato' Dr Khalid Yusoff was appointed as UCSI University's third vice chancellor and president in 2013. He has been the driving force behind the elevation of UCSI's national and international standing.

The pursuit of quality and excellence at UCSI is relentless under Professor Dato' Khalid's leadership. Each faculty and institute identifies its differentiating and distinguishing features while all of UCSI's 105 programs are reviewed and revamped regularly. Research and postgraduate studies are pursued rigorously. UCSI has also improved remarkably in the areas of teaching and learning, academic governance, teacher-student engagement, international achievements, awards and professional recognition.

These initiatives synergize the university with the future. UCSI is now recognized among the top 300 in QS Asian University Rankings 2015, becoming one of the few private universities in Malaysia to do so. It has also achieved Tier 5 classification in the Rating System for Malaysian Higher Education Institutions (SETARA) exercise—the highest rating achieved to date by the best universities and foreign branch campuses in Malaysia.

Professor Dato' Khalid is actively engaged internationally. UCSI now has ties with Harvard University, Imperial College London (ICL), the University of Melbourne, RMIT University, Monash University, King's College London, University College London and other top universities in Ireland and France.

UCSI students have gone on to Harvard and ICL for research placements in medicine and engineering, respectively. Academic collaborations are being extended to India, Sri Lanka, Mauritius and Nepal.

In conjunction with its 30th anniversary, Professor Dato' Khalid will oversee the massive expansion of UCSI's main campus in Kuala Lumpur, in addition to the construction of two new campuses in Springhill and Kuching. UCSI's acclaimed industry network—currently exceeding 3,500 industry partners—will also be further enhanced through initiatives that highlight the experience and expertise of its academic staff. More new programs will also be rolled out including industrial PhDs and the eMBA.

Professor Dato' Khalid, a cardiologist, is a firm advocate of the kind of research that matters. His research transcends molecular, translational and epidemiological spheres focusing on cardiovascular disease. As a fellow and council member of the Academies of Sciences and Medicine Malaysia, the National Science and Research Council (NSRC) and National Bioethics Council, he works tirelessly to enhance science and medicine. He co-chaired a major NSRC review of Public Research Assets Performance with the New York Academy of Sciences, recommending the establishment of the Malaysian Research Agency. He has been representing NSRC at Global Research Council annual meetings since 2013.

Before joining UCSI, Professor Dato' Khalid served as dean of medicine at Universiti Teknologi MARA and Universiti Kebangsaan Malaysia. He has received numerous prestigious awards including the Hewlett-Packard International Award, the Albert Schweitzer Gold Medal, the Royal College of Physicians of London Gold Medal, and the Doctor of Medical Science (honoris causa) from his alma mater, the University of Melbourne.

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One of Malaysia's
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A top 300 university in Asia
(2015 QS Asian University rankings)

A Tier 5 (Excellent) university
in Malaysia (2013 SETARA rating)



Sunway University, Malaysia: Nurturing International Excellence in a Young University

A QS showcase profile of Professor Graeme Wilkinson, vice chancellor of Sunway University



"We are working hard to create an internationally leading university that meets the aspirations of our founder, our students, and more broadly our nation. We have high aspirations and are cultivating expert academics to enable us to achieve our goals."

Professor Graeme Wilkinson

Vice Chancellor

Professor Graeme Wilkinson was appointed as the third vice chancellor of Sunway University, Malaysia, in 2012. He grew up in a rural part of the UK in a family of modest means. But from an early age he learned from his parents and teachers the value of education and the potential it has to change lives. He was fortunate to be able to study at two leading universities, namely Imperial College London and Oxford University, where he obtained his doctorate in atmospheric physics. He has spent most of his career in academia, progressively ascending the academic hierarchy, though in his early career he worked in management consultancy in London, and later he led an international research team at the European Union's Joint Research Centre in Italy.

Unusually his academic career included posts in some of the UK's most distinguished research-led institutions, such as University College London, as well as in the newer teaching-led institutions focused on widening access to higher education. Professor Wilkinson passionately believes all types of institutions have equally valuable roles to play, both through advancing human knowledge and in giving opportunities to young

people that will ultimately transform economies and societies.

Professor Wilkinson feels that university leaders need to have a keen eye on the external context and understand that all universities operate in a business environment in which they need to be aware of their value proposition. Professor Wilkinson believes his early career experience in management consulting as well as his exposure to research with the EU, where relevance to the needs of multiple nations was a key driving force behind the research undertaken, helped him to understand that meeting the needs of the "customer", however defined, as well as total dedication to quality are fundamental aspects of any successful university.

During his tenure at Sunway, the university has almost doubled in size in terms of student enrollments, has vastly expanded its range of degree courses in business, the arts and the sciences, and brought in several high performing research teams. Professor Wilkinson says Sunway University is young, but enormously ambitious. This follows the lead of Sunway's founding chancellor, Tan Sri Dato' Seri Dr Jeffrey Cheah,

founder and chairman of the Sunway Group of companies, which has effectively developed an entire modern sustainable urban community, Sunway Resort City, on the edge of Kuala Lumpur. Professor Wilkinson says "Everything we do is focused on being the best and building an international reputation as fast as we can. We now have students from around 80 nationalities and partner with well-known institutions worldwide in our academic endeavors. This includes running joint degrees with Lancaster University, UK, and organizing joint research conferences both with Harvard and Oxford". Sunway University is committed to becoming internationally outstanding with an objective of emulating other fast risers in the global league tables.

In 2015 the university opened its brand new campus offering state-of-the-art lecture theaters, social learning spaces, advanced laboratories and an expansive new library hosting a contemporary mix of electronic and physical learning and research resources. This has more than doubled existing capacity allowing for significant expansion in terms of students and research activities.

SUNWAY
UNIVERSITY



A STAR IS RISING IN THE EAST



Sunway University has placed itself on par with world-class standards by achieving the Highest Distinction of Five Stars in the 2015 QS Stars University Ratings for:

- Teaching • Employability • Facilities

The image shows the modern, multi-story Sunway University buildings under a clear sky. The central building features large glass windows and a prominent entrance with the university's name and crest. In the foreground, there is a green lawn and three black rectangular signs, each displaying the 'QS STARS RATED FOR EXCELLENCE' logo and the year '2015'. The signs are arranged horizontally and correspond to the three categories: 'TEACHING', 'EMPLOYABILITY', and 'FACILITIES'. Below each sign is a row of five yellow stars. At the bottom of the image, there is contact information: a phone icon followed by '+603 7491 8622', an envelope icon followed by 'INFO@SUNWAY.EDU.MY', and a computer monitor icon followed by 'SUNWAY.EDU.MY/UNIVERSITY'.

At the helm of Universiti Kuala Lumpur

A QS Showcase profile of Professor Dato' Dr Mazliham Mohd Su'ud, president of Universiti Kuala Lumpur



"The university will face greater challenges as it continues its journey to chart impressive records in the global history of tertiary education. However, with highly productive staff and students supported by strong commitment to excellence and tireless efforts, Universiti Kuala Lumpur will strive continuously towards achieving greatness. We can do this fast by working alone but let's do this together and go far!"

Professor Dato' Dr Mazliham Mohd Su'ud
President / Chief Executive Officer

Professor Dato' Dr Mazliham was born on September 8, 1967 in Johor, a southern state of Peninsular Malaysia. At the age of 19, he earned a Malaysian government scholarship to further his studies in Europe, earning his place at the Universite de Montpellier II - Sciences et Techniques du Languedoc, Montpellier, France. After seven years in France, Prof Mazliham returned to Malaysia having completed his post master's degree in electronics.

Upon returning, Prof Mazliham joined SGS-Thomson Microelectronics, a semiconductor manufacturing company as an engineer based in his hometown. However, having a deep-rooted desire in wanting to contribute to the betterment of his fellow countrymen, he found his calling in education. He left his profession as an engineer two years later to become a lecturer and one of the instrumental pioneers in setting up Malaysia France Institute (MFI), an advanced technical training center in the field of engineering technology, incorporated in February 1995 as a co-operation project between the Malaysian and the French governments. He was promoted to become the dean of Malaysia France Institute in 2004 and it was while serving MFI that he was sent to France again to complete his PhD

in computer engineering from Universite de La Rochelle, France, returning with très honorable (very honorable).

In 2008, Prof Dato' Dr Mazliham was appointed as the deputy director, Centre for Professional and Continuing Education, Technopreneur Development and Innovation Division, and later in 2010 promoted to director. He was responsible for entrepreneurship programs, research, teaching and advanced education at all campuses of Universiti Kuala Lumpur (UniKL). In 2012, Prof Mazliham Mohd Su'ud was appointed as deputy president (industrial linkages) before being promoted as the president/chief executive officer of Universiti Kuala Lumpur in February 2013. Despite UniKL's remarkable achievements which span from expansion in number of campuses, increase in students' intake, collaborations with global industry players and renowned institutions as well as improved financial capability just to name a few, Prof Mazliham believes it is now time for Universiti Kuala Lumpur to take the next step.

Professor Mazliham's greatest achievement, by his own accord, is the development of a strategic initiative named as WE4ASIA, aimed at

positioning UniKL among the top universities in Asia by 2020, spearheading the Higher Technical and Vocational Education and Training (HTVET). UniKL is looking at various different approaches and offering programs that are not offered anywhere else in the world. UniKL, in its president's words, was established to complement other traditional universities and not to compete with them. "In 20 years, we are going to be one of the best-known universities in the world within our field."

For his accomplishments thus far, in 2013 he was awarded a state award by the Sultan of Pahang (Darjah Sultan Ahmad Shah Pahang), which carries the title "Dato". In May 2015, he was conferred the Chevalier in the l'Ordre National du Merite (The National Order of Merit) award by the President of the French Republic bestowed to Dato' Mazliham by His Excellency Mr Christophe Penot, ambassador of France to Malaysia. This award is one of the two highest awards by the French Government awarded to French citizens as well as foreign nationals for distinguished civil or military achievements.

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1
UNIVERSITY

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PROGRAMS

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Nurturing Professionals for Global Careers

A QS Showcase profile of Datuk Dr Parmjit Singh, co-founder and CEO of the APIIT Education Group



"An enviable track record of exemplary student achievements, graduate employability, contributions to national level education, and with an unrelenting focus on quality are key factors that have led to the successful transformation from a college of technology to a full-fledged university with regional presence and a diverse global student community".

Datuk Dr Parmjit Singh

Co-founder and CEO of the APIIT Education Group

Brief biographical background, including career path and major personal achievements

Datuk Dr Parmjit Singh is a visionary leader who is driven, committed and passionate about education. His unique blend of knowledge and experience in education, technology and business has contributed significantly towards the establishment of the Asia Pacific Institute of Information Technology (APIIT), and its subsequent growth and evolution into a full-fledged Award-winning university—Asia Pacific University of Technology & Innovation (APU).

Dr Parmjit Singh has been intrinsically involved in the Malaysian higher education sector for the past 32 years. He is the Co-founder and CEO of the APIIT Education Group which includes the Asia Pacific University of Technology & Innovation (APU), Asia Pacific Institute of Information Technology (APIIT) with branch campuses in India and Sri Lanka, and the Asia Pacific Schools.

Dr Parmjit has always dedicated himself towards ensuring that the entire APIIT Education Group operates on extremely sound principles encompassing professionalism, ethics as well as an operating model designed to ensure sustainable growth. Dr Parmjit is a firm believer that education should provide a learning experience that goes beyond offering academic training and rigor, with a focus on developing values, where students are groomed to be industry-ready professionals with sound

knowledge, critical and problem-solving skills, leadership and teamwork skills as well as strong ethical values.

Currently, apart from a number of other National and Industry level responsibilities, he also holds the following senior level positions:

- Pro-Chancellor, Staffordshire University, UK
- Deputy President, Malaysian Association of Private Colleges & Universities (MAPCU)
- Vice President, Malaysian Service Providers Confederation (MSPC)
- Director, Multimedia Development Corp. (MDeC)
- Panel Member, MSC Malaysia National Advisory Panel

Dr Parmjit has served the nation in various capacities as Chairman, Advisor, Board Member and Council Member on a number of National organizations which include the following: Malaysian Qualifications Agency (MQA); National Vocational Training Council (MLVK); Human Resource Development Council (HRDC); Expert Group on IT Human Resources under the National Council for Scientific Research and Development (MPKSN); Advisory Group on Technical and Vocational Education under the Ministry of Education; National Demonstrator Application Grant Scheme (DAGS) under the National IT Council; Industrial Master Plan 3 (IMP3) Technical Resource Group for Human Resource Development.

In 2010, Parmjit was conferred the prestigious National Award by His Royal Highness the King of Malaysia which carries the title DATUK, in recognition of his contributions towards national development. His contributions to the Malaysian IT Industry have been recognized as far back as 1990 when he was named the "1990 IT Personality of the Year" by the Malaysian Computer Industries Association (PIKOM).

His leadership and stewardship of the APIIT Education Group had also led to the Group achieving the prestigious Prime Minister's Award and Export Excellence Award in 2011.

Personal vision and ambition for both increasing your institution's global recognition and improving its world ranking

APU has evolved into a university which has an international student community of more than 11,000 students from Malaysia and more than 110 countries, and which has received more than 100 awards and accolades at local, regional and international levels. With an array of more than 100 programs offerings in Technology, Engineering, Business Management and Finance, APU is well positioned to take its growth to the next level as it prepares to move into its new and much larger, purpose-built campus in Technology Park Malaysia in 2016. With its track record as a leading Malaysian Private University, APU is therefore all set to further enhance its positioning alongside the world's leading international Universities.



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6

PHILIPPINES

ASIA COUNTRY FEATURES

Taking UST's Legacy a Notch Higher

A QS Showcase profile of Rev Fr Herminio V Dagohoy, OP, PhD, rector of University of Santo Tomas (UST)



"Every previous administration has good intentions and that one significant role of any new leadership is to improve on the legacy of the past."

Rev Fr Herminio V Dagohoy

Rector

Born on July 8, 1964 in Hagonoy, Bulacan, where he spent his childhood, Father Herminio V Dagohoy, OP, completed his basic education at Sta. Elena Elementary School and Hagonoy Institute in Bulacan. His parents, Vicente Dagohoy and Herminia Victoria, already saw in him an early commitment to responsibility and a genuine love for a life of the mind. He finished accountancy at the Polytechnic University of the Philippines in 1985, and later on professed the evangelical vows in the Order of Preachers on May 10, 1988. As a Dominican, Fr Dagohoy obtained the following degrees: AB Philosophy at the Philippine Dominican Center for Institutional Studies in 1990; BA in sacred theology at the UST Ecclesiastical Faculty of Sacred Theology in 1993; Master of Arts in Philippines studies in philosophy at the University of the Philippines, Diliman, Quezon City, in 2000; licentiate in philosophy at the UST Ecclesiastical Faculty of Philosophy in 2011; and a doctorate degree in Philosophy also at the UST in 2012. His areas of specialization include ancient philosophy, theodicy, social philosophy and hermeneutics.

Fr Jojo, as he is fondly called, was ordained to priesthood on September 28, 1994 at the Santo Domingo Church in Quezon City. He previously held posts as Prior/Superior of the Santo Domingo Convent, QC and Caleruega,

Batangas. He served in various capacities in some educational institutions of the Order of Preachers in the Philippines. He was appointed internal auditor of Colegio de San Juan de Letran, Manila (1994); dean of the College of Business and Administration and director of research and development of Colegio de San Juan de Letran, Calamba (1996); director of Caleruega Retreat Center (1997); rector and president of Angelicum College (2000); director for finance and administration of UST Hospital (2008); and internal auditor of UST (2010). As a respected academic, Fr Dagohoy has published articles and book reviews in scholarly journals. He also engaged in significant scientific, ecclesial and cultural activities, and delivered various talks and lectures both in the Philippines and abroad. At present, he is rector of the University of Santo Tomas, member of the Board of Trustees of Aquinas University, Colegio de San Juan de Letran (Intramuros and Calamba), Angelicum College and Angelicum School. He is president of the Dominican Network of Schools (DOMNET), president of the Association of Catholic Universities of the Philippines (ACUP), treasurer of the Catholic Educational Association of the Philippines (CEAP), member of the First Assets Management Incorporated (FAMI) and PhilhealthCare Incorporated (PhilCare) and the Industry-Academe Council of the Philippines.

A symbol of quiet dynamism and rational classicism, Fr Jojo is a person who values hard work, intellectual rigor, genuine humane interaction and team effort. His steady gait, dignified stance, warm smile and pleasant disposition reflect his innate goodness and unflinching moral principles. His formidable background in philosophy, sacred theology, Philippine studies, and accounting makes him truly a rare gem, a cut above the rest, making him more than capable of seeing stark realities at all angles and facing seemingly insurmountable challenges with faith and reason. He also believes that the key to a person's success is to enjoy what one does. That if one enjoys the work he is doing, he would never feel tired or bored.

Father Dagohoy deems that continuity—building on the accomplishment of the past—is necessary for an institution to grow. He believes that every previous administration has good intentions and that one significant role of any new leadership is to improve on the legacy of the past. His immediate goal is to develop a multidisciplinary approach to all disciplines because he believes that there is no such thing as one discipline hovering others.



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- IFCU** - International Federation of Catholic Universities
- ASAHL** - Association of Southeast Asian Institutes
of Higher Learning
- UMAP** - University Mobility in Asia and the Pacific
- UMAC** - University Museums and Collections
- AUPF** - Asian University Presidents Forum
- IAU** - International Association of Universities
- AUAP** - The Association of Universities of Asia
and the Pacific
- AIMS** - ASEAN International Mobility for Students
- SSEASR** - South and South East Asian Association
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The Laurel Legacy of Excellence in Education

A QS Showcase profile of Atty Roberto P Laurel, president of Lyceum of the Philippines University



"With the blessings of the Almighty, the inspiration provided by our founder, Dr Jose P Laurel, and the standards of excellence established by my predecessor, Senator Sotero H Laurel's, LPU shall reach greater heights for God and Country..."

Atty Roberto P Laurel

President

Founded after the Second World War by their grandfather, Pres Jose P Laurel, and sustained by their father, Sen Sotero H Laurel, the Lyceum of the Philippines University continues to flourish under the leadership of Atty Roberto "Bobby" P Laurel who leads the Lyceum of the Philippines University System, comprised of Manila, Makati, Cavite, Batangas and Laguna campuses.

The sustainable success of the LPU System is evident in the phenomenal growth and prestige in its enrollment and the programs it offers. From an initial campus in Manila, with a few hundred students to now, five campuses comprise the LPU System with more than 35,000 students in various associate, undergraduate, and graduate programs. All the campuses will now be offering basic education also to address the K-12 needs of the country.

Under the visionary leadership of Atty Bobby, LPU has accomplished a number of firsts in various local and international accreditations

and certifications for both programs and institutional recognitions. He has also been recognized by various organizations for his work in academe.

Despite such lofty achievements, Atty Bobby is refreshingly accessible to the members of the work community, thereby inspiring senior administrators and regular employees alike to excel in their respective endeavors. It is no surprise, then, that LPU was granted the high honor that is the Investors in People award. In 2013, the People Management Association of the Philippines (PMAP) awarded LPU the People Program of the Year for its corporate social responsibility projects with the indigenous peoples of the Philippines; LPU was also a finalist for the PMAP 2013 Employer of the Year award.

Bobby is holder of an AB economics degree from the Ateneo de Manila University, a Bachelor of Laws from the University of the Philippines and a Master of Laws from Columbia University. Before

joining LPU on a full-time capacity in 1997, Bobby devoted himself to the practice of the legal profession for close to 20 years.

Being the third generation leader of the LPU, from their grandfather, President Jose P Laurel, and father, Senator Sotero S Laurel, who helped the country rebuild after the war through education, Atty Bobby is helping the nation's youth prepare for the challenges of a globalized education and work environment in various disciplines. His passion for quality assurance in education, measured by local and international quality standards accreditation such as THE-ICE for the tourism and hospitality programs, is driven by the deep desire to form professionals who are globally relevant and have the knowledge, skill sets, and attitude for industries they will be joining here and abroad. Indeed, in this way, as the LPU motto—the embodiment of their forebears' passion for education—is "Taking the Lead."



LPU

LYCEUM OF THE PHILIPPINES UNIVERSITY
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www.lpu.edu.ph



SINGAPORE

ASIA COUNTRY FEATURES

SMU Singapore – Daringly Different Global City University in Asia

A QS Showcase Profile of Prof Arnoud De Meyer, president of Singapore Management University



"For SMU to be a great university that tackles the world's complexities and makes positive impact on humanity, SMU needs to continue to be a game changer in transformative education, a catalyst and leader in cutting-edge research, and a global exemplar as an Asian city university. This is SMU's Vision 2025."

Professor Arnoud De Meyer
President

Professor Arnoud De Meyer, president of Singapore Management University (SMU Singapore), continues the drive for "A Different U" that nurtures global leaders and entrepreneurs with a heart.

SMU was established in 2000 to offer a boldly different new education model, which transformed Singapore's university landscape. Holistic and innovative in approach, it pioneered a unique pedagogy with seminar-style teaching in small and highly interactive classes, focusing on producing all-rounded students who understand global issues with Asian relevance. It is the only local university located in downtown Singapore.

In just 15 years, SMU has become a world-class university with distinguished research and teaching, expanding from a business management university to also having reputable schools in accountancy, economics, information systems, law and social sciences. It now offers a wide range of undergraduate, masters, doctoral and executive development programs, including several partnerships with renowned institutions worldwide. SMU faculty collaborate with leading

international researchers and universities, as well as business community and public sector partners, through its research institutes, centers and labs.

Under Prof De Meyer's charge, SMU achieved several key milestones. After all, the former Director of Judge Business School at the University of Cambridge and founding Dean of INSEAD's Asia Campus in Singapore already had a track record of pushing frontiers in business management and innovation.

SMU was one of the youngest universities to earn both AACSB and EQUIS accreditations. It was the first university to feature in both the Pre-experience and Post-experience rankings in the Financial Times (FT) Global Masters in Finance Ranking 2015. SMU's EMBA program debuted outstandingly in FT's EMBA Ranking 2015, ranking 10th in Asia and 36th in the world.

High-quality research has also placed SMU well globally. The Lee Kong Chian School of Business is ranked 4th in Asia and 58th worldwide in the University of Texas Worldwide Business School Ranking; SMU's School of Economics remains

1st in Asia in the Tilburg University Top 100 Worldwide Economics School Research Rankings; and Brigham Young University Accounting Research ranked SMU's School of Accountancy 1st in Asia and 8th worldwide in Archival Accounting Research (All Topics).

SMU's graduates are highly employable global citizens due to holistic education with multiple internships, community service, and global exposure for some 90 per cent of them.

Prof De Meyer has a Master of Science in electrical engineering, MBA and PhD in management from the University of Ghent in Belgium. He also pursued his studies as a visiting scholar at the Sloan School of Management, Massachusetts Institute of Technology (USA). His work on Technology Management and Manufacturing Strategy is published widely in academic journals and he has written several books. He serves on several boards such as Singapore's National Research Foundation, Singapore International Chamber of Commerce and Temasek Management Services. He is an external director of Dassault Systèmes SA (France). He was involved in five startups.

IT'S NOT HOW YOU THINK. IT'S HOW YOU RETHINK.

The world is in a mode of constant change.

It calls for a new breed of future-ready leaders and thinkers who are able to understand the complexities and solve the problems these changes bring.

That is why SMU curricula are constantly refreshed with innovative and pragmatic initiatives across all levels of undergraduate, postgraduate and doctoral programmes.

Our research-friendly culture also creates a rich environment that supports multi-disciplinary initiatives. One example is the Centre for Research on the Economics of Ageing, established to enhance retirement readiness, understand the needs of an ageing population and to shape policies that make a difference.

This is why we've become known in Asia for producing a new generation of graduates – who not only think but rethink everything.

SOUTH KOREA

ASIA COUNTRY FEATURES

A Joyful Revolution of Ajou University to Grow into a Boundary-Pushing University

A QS Showcase message from President Kim Dong-Yeon of Ajou University



"To achieve Ajou Great Turning in the true sense, we will work hard to evolve in the right direction, in ways that differentiate us from others, and to an extent that our evolution can send reverberations through the entire university community."

Kim Dong-Yeon

President

Ajou University, which has grown into one of Korea's leading universities over the course of its four-decade-long history, is now stirring up another wind of change. Ajou University has decidedly taken innovative initiatives to become a "boundary-pushing university" and has launched a variety of new programs to fulfill its social responsibilities. The university's so-called "Joyful Revolution" is emerging as the center of attention among Korean universities.

Despite its comparatively short history of just four decades, Ajou University is now recognized as one of Korea's most prestigious private universities, consisting of 11 colleges and schools from the College of Engineering to the College of Information Technology, College of Natural Sciences, College of Humanities, College of Social Sciences, School of Business, School of Medicine, College of Nursing, College of Law, College of Pharmacy, and University College, as well as three professional graduate schools including the Graduate School of Law. Ajou University's campus encompasses both the colleges and affiliated hospital (Ajou University Hospital, which is the nation's seventh largest hospital), providing an enabling environment for industry-university collaboration. Ajou University is also making multi-faceted efforts to become

an internationally recognized higher education provider based on its extensive network with over 280 universities and organizations across the globe.

Ajou University has achieved its reputation as a university with teaching excellence by remaining dedicated to nurturing students into "creative minds suited for the era of convergence who seek truth based on facts and empirical evidence." It has recently implemented a wide range of programs that reflect its insight into a university's social role. The leadership of President Kim Dong-Yeon, who took office early this year, served as the foundation for this drastic move.

President Kim, often dubbed the messenger of the Joyful Revolution, emphasizes the importance of productively rebelling against our surroundings and our society as well as against our own thinking. He asserts that this revolution should be self-directed, not an imposition, and thus joyful. Before joining Ajou University, he served as a minister at the Prime Minister's Office of Korea and took charge of the coordination and management of the overall affairs of the state. He filled various important government positions such as the vice minister of strategy



and finance, head of the Budget Office, and senior secretary to the president for economy and finance at the Office of the President. He also served as a project manager at the World Bank, and was a Fulbright visiting scholar to the Paul H. Nitze School of Advanced International Studies (SAIS) at Johns Hopkins University. He earned master's and PhD degrees in public policy from the University of Michigan, Ann Arbor, USA.

President Kim takes keen interest in many social issues, especially social mobility. He believes that the availability of social mobility is integral in ensuring the sustainable development of our society and that universities play an instrumental role in improving social mobility.



In this context, Ajou University designed a number of programs under the campaign entitled "After You". The first program, *After You 2015: Summer Ajou Global Campus*, provided underprivileged students with the opportunity to receive intensive overseas training. A total of 79 students were sent to some of the world's most renowned universities, such as the University of Michigan and Johns Hopkins University in the USA and Shanghai Jiao Tong University in China, where they accumulated enriching experiences for four weeks in the summer of 2015. Participants were selected based on their financial situation and enthusiasm, not their GPAs and English proficiency. The students were given full scholarships, which covered all program expenses, and scholarships were sourced from donations made by those who recognize the significance of social mobility. This program opened its door to the students of other universities in the belief that our efforts for the improvement of social mobility should reach

the entire community. As a result, 20% of the participants were from other universities. Ajou University plans to further expand this program throughout the future.

"Education has provoked criticism for having degenerated into an instrument that merely passes on social status and wealth, all the while hampering social mobility. Universities need to rebuild the ladder of social mobility to ensure a sound, sustainable society."

As a part of *After You*, Ajou University initiated *Ajou Hope SOS* program for students who are in dire financial straits and are compelled to give up their studies. Students in urgent need of help due to their family members' struggle against diseases or unemployment can apply for emergency assistance via the university website.

Ajou University has also established a new development strategy by drawing together the

opinions and ideas of professors, staff members, and students. The development strategy that finally took shape as a result of rigorous research and in-depth discussions for over two months was named *Ajou Great Turning*. *Ajou Great Turning*, encompassing the areas of education, research, community outreach services, globalization, and industry-university collaboration. The strategy includes programs involving preparation for the reunification of Korea, student-led programs such as *The Semester of New Challenges* (a program that enables students to break free from the existing courses, take initiative, and organize activities on their own for one semester), the Track Program, and the professor evaluation system that takes into account various activities of professors such as volunteer works, industry-university collaboration projects, and other activities. Ajou University aims to further move forward and bring positive change to Korea's higher education scene by faithfully carrying out this development strategy.

KU – The Future

"Our answer is pioneering intellectuals"



Korea University

The key to Korea's incredible economic and social development over the last half century has been education. Korea University, the country's oldest and most prestigious private university has played an important and leading role in the rapid growth and prosperity of the country.

Korea University (KU) is highly acclaimed not only domestically, but also within Asia and around the world. The QS World University Rankings 2015/16 has ranked KU the 104th top university in the world. In addition, 20 academic fields among 36 subjects were ranked within the top 100 in the world according to the QS World Ranking by Subject. Revealing its global scope Korea University currently has over 9,000 foreign students among a student body of 37,000. In addition, Korea University welcomes over 1,400 visiting students each summer to participate in Asia's top International Summer Campus program.

In an effort to reform the Korean higher education system, Korea University has begun introducing initiatives such as flexible semesters and MOOC's (Massive Open Online Courses) to address the challenges faced by non-traditional student populations and to enhance students' creativity. Also, by expanding our Global Leadership Program with top universities in China, Japan, Europe, USA, and Latin America, Korea University students will enhance their language skills and expand their cultural awareness and understanding.

As Korea, and indeed the international community, is standing at a major crossroads, particularly in the development of human resource potential, new approaches to educational initiatives must be embraced for universities to remain relevant.

Throughout history, universities have played the critical role of steering the direction of human development. When asked what universes should pursue in the future, Korea University's answer is pioneering intellectuals at the crossroad facing the great historic change of the 21st century.

Pioneering intellectuals are the future global leaders with critical thinking skills, the ability to apply tacit knowledge, a global vision, personal integrity, willingness to take responsible risks and community conscious.

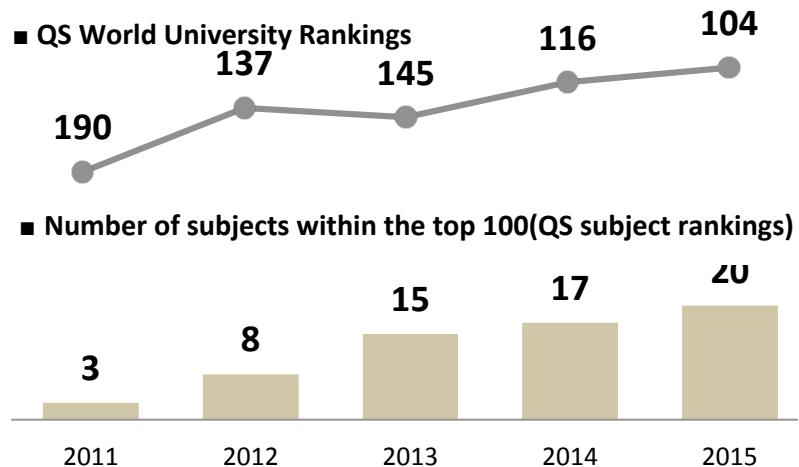
By cultivating an aggressive "pioneering spirit" within our students, Korea University will be able to contribute to the unleashing of their immense potential to explore future directions and provide necessary solutions to modern concerns in the academic, social, political and business worlds.



**KOREA
UNIVERSITY**

Korea University
145, Anam-ro, Seongbuk-gu, Seoul, 02841, Korea
Tel: +80-2-3290-1152
Email: Hongbo@korea.ac.kr
URL: <http://www.korea.edu>

QS World University Rankings



KOREA UNIVERSITY



The Path
toward the Future

KOREA UNIVERSITY



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www.korea.edu



20

Subjects out of 36
ranked in the top100
(QS subject rankings)



26

Ranking of alumni
among CEOs
of FORTUNE GLOBAL 500
companies



40

% of all courses
delivered in English



1

The only
Korean university
in the World 100
Reputation Network



928

Number of
international partner
universities



4,023

International students
on campus

Come to HUFS, Meet the World!

A QS Showcase message from Dr KIM In-chul, president of Hankuk University of Foreign Studies



"Charting new directions and expansions as one of the top universities in language, culture, interdisciplinary studies, and paradigm convergence"

Dr Kim In-chul

President

Hankuk University of Foreign Studies (HUFS), established in 1954 under the founding spirit of "truth, peace, and creation" has passed its 60th anniversary.

President Kim In-chul earned his PhD in political science at University of Delaware in the United States. Having taken several important positions including the 10th president of HUFS since 2014, he has put his academic philosophy in action to make the university a "prestigious and influential" one.

With the vision of fostering global leaders of the future, HUFS has expanded its curriculum beyond the 45 major language courses, reaching out to the fields of regional studies, politics, economics, social studies, culture studies, business administration, engineering, and more. In addition, HUFS is striving to promote the students' advances on the global stage by signing agreements on exchange programs with 612 universities and institutions from 90 countries around the world.

Going forward, HUFS will continuously expand the interdisciplinary "convergence education"

programs based on the university's unique values. The LD (Language and Diplomacy) division, the first and only specialized knowledge education program in Korea, selects the country's top students who aspire to work as high-ranking diplomats on the global stage. The LT (Language and Trade) Division was established in 2015 to train students to become experts in global industries and trade. The Division of Biomedical Engineering (BME) integrates medical science, life science, and IT in an attempt to train key players in the future global bio-industry.

HUFS is proud of 120,000 alumni, living and working all around the world, who have played key roles in the globalization of Korea. Still, HUFS will not be complacent with the achievements and will continue to devote efforts to nurture globally competitive and talented individuals who contribute to the development of the nation and the prosperity of humanity.

"Come to this great university, where a new generation is taking its place in the world."
- US President Barack Obama, March 26, 2012, from speech delivered at HUFS

With many international programs, HUFS attracts the best students and mentors these talents with specific international programs such as the 7+1 Visiting Student Program, Double Degree Program, DBMD (Dual Bachelor's – Master's Degree) Program, ISS (International Summer Session), ISO (International Student Organization), UPEACE (University for Peace), KOTRA (Korea Trade-Investment Promotion Agency) Internship Program, HUFS International Model United Nations etc.

FLEX (Foreign Language EXamination) is a specialized foreign language test developed by HUFS. Russian, Chinese, Japanese, French, German, Spanish, and English FLEX are certified as nationally recognized language evaluation.

The new HUFS International Diplomatic Scholarship (IDS) Program is designed to provide a full tuition scholarship opportunity in higher education at HUFS for scholars recommended by partner embassies. The HUFS legacy is and will continue to be a factor in strengthening friendship with all nations.



HUFS
No.1 Global University in Korea!

2015 Harvard WorldMUN Seoul

Hosted by HUFS and Harvard University

The World Model United Nations is the world's largest model UN gathering. HUFS is the first university in South Korea to run this event, with the participants reaching an all-time high of 2,500 from 117 countries in 2015. Having finished the gathering successfully,

HUFS will continue its efforts to nurture globally competitive and talented individuals who can face the challenges of our era by bolstering our interdisciplinary "convergence education" programs.



SUBJECT FOCUS SUMMIT

MATERIALS SCIENCE & ENGINEERING

Convergence in Action:
Materials Science & Engineering as the Central Subject

June 13–15, 2016
Seoul, South Korea

Organizing Partner



SEOUL NATIONAL UNIVERSITY



TAIWAN
ASIA COUNTRY FEATURES

CGU – To Be the Best Research-led University

A QS Showcase message from Professor Chia-Chu Pao, president of Chang Gung University



"At CGU, we have never wavered from our founding aim and have been running the school step by step in order to cultivate students to combine theory and practice and to work diligently to become the new pillars of society."

Professor Chia-Chu Pao

President

Chang Gung University (CGU) was established in 1987. Despite a short history of less than 30 years, CGU has had an outstanding performance in both teaching and research. CGU is ranked 78th in the QS Asian University Rankings 2015, and in the QS World University Ranking CGU is within the top 500.

To meet the needs of Taiwan's development, CGU has actively recruited well-respected scholars and experts from both within Taiwan and abroad to join the faculty community. Currently CGU consists of the College of Medicine, the College of Engineering, and the College of Management; a total of 20 undergraduate programs and 41 master's and PhD programs.

CGU has received many recognitions and awards from the Ministry of Education and other organizations for the dedication and achievements in becoming a first-rate and internationally renowned university that prepares students to become high standard professionals in the fields of medical science, technology, and knowledge management. Professor Pao, who joined CGU as professor during its founding period, has earned his PhD in molecular genetics from the University of Connecticut. He conducted his postdoctoral research in the University of Washington, and also worked as an assistant professor in the University of Mississippi Medical Center and a

principal scientist at Ortho Pharmaceuticals of Johnson and Johnson.

He believes that running a school needs a lofty ideal, rich resources and a good learning environment. With the full support from the board of directors, CGU has adequate resources and a healthy financial structure.

CGU highlights the importance of integration between theory-based research and applied research. To achieve this goal, CGU hires renowned scholars and specialists to teach and work here, and offers lucrative remuneration packages to encourage research work, including research award, research project fund, job bonus, and grants for journal publication.

Over the last few years, CGU has provided streaming courses to promote an online learning environment. In order to bridge the gap between the university and industries, CGU encourages students to participate in industry internship programs and university-industry collaborations.

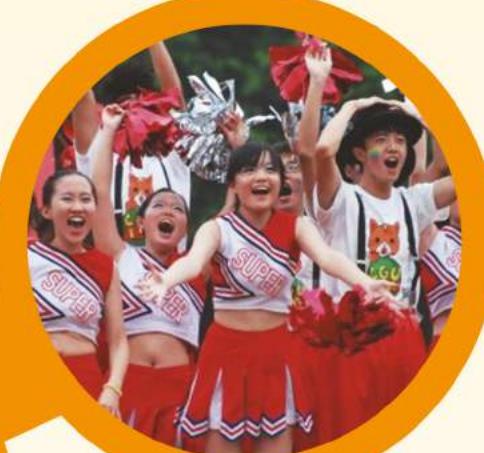
Furthermore, in order to compete with the world's top research institutions, CGU coordinates the resources in medicine, engineering and management to establish research centers and international collaboration teams to strengthen its research quality and quantity.

These research centers have conducted research in cancer biomarkers, biomedical engineering, green energy, molecular mechanism of immune response, healthy aging, elderly care and industry innovation for the senior citizens.

The faculty members of CGU have played active roles in national and international research projects sponsored by various government agencies. CGU also institutes an extracurricular practicum system and works closely with Chang Gung Memorial Hospital, the Formosa Plastics Group, and other institutions to conduct internship and work-study programs.

Professor Pao emphasizes that in addition to cultivating tomorrow's professionals and intellects, the goal of university education is also to focus on the personality development and humanistic training of students.

Looking ahead, CGU aims to earn prominence by investing more resources in academic research. Professor Pao believes that the university is working hard to become a destination of preference for many of the best students, teachers, researchers, and scholars in the world.



Colleges

- Medicine - Engineering - Management

Chang Gung University

CGU has over 1,200 full-time and part-time teaching staff and over 7,300 students. The student-faculty ratio is approximately 11.6.

CGU takes pride in delivering professional knowledge and helping students develop a high moral and ethical standard. We also place an equal emphasis on theory and practice.

CGU offers an outstanding environment for research and teaching, supported by ample research funding.

CGU is committed to promoting a warm and welcoming campus for international students by providing a genuine English learning environment. In addition, CGU also has well-respected international faculties, modern LAB facilities and an eco-friendly campus.

@ Internationally-recognized faculty

@ First-rate resources to support research

@ Strong university-industry liaisons

@ Low tuition fees

@ Various scholarship opportunities

@ Comfortable dormitories

TEL : +886-3-2118800 ext. 5592

Email : cgu_fs@mail.cgu.edu.tw

Website : <http://recruit.cgu.edu.tw/bin/home.php>

Address : No.259, Wenhua 1st Rd., Gulshan Dist., Taoyuan City 33302, Taiwan (R.O.C.)



National Kaohsiung University of Applied Sciences Promotes International Collaboration in Building a World-Class University

A QS Showcase message from Dr Cheng-Hong Yang, president of National Kaohsiung University of Applied Sciences



"International rankings are likely to reflect university direction and strategy. KUAS is committed to a differentiated world-class higher education system that serves the needs of individuals and society with strong links to higher education institutions globally."

Dr Cheng-Hong Yang
President

The Leading University of Technology in Southern Taiwan

Established in 1963, National Kaohsiung University of Applied Sciences (KUAS) sits at the heart of Kaohsiung, a world-class industrial port city with a population of 2.8 million residents and the second-largest city in Taiwan. With more than 100,000 graduates so far, KUAS currently has 4 colleges: the College of Engineering, College of Electrical Engineering and Computer Science, College of Management, and College of Humanities and Social Sciences. KUAS currently hosts over 13,000 students, offering 9 doctoral programs, 19 master's programs, 18 four-year bachelor's programs for professionals, and 5 master's programs for industry professionals across 18 departments.

Strengths and Performance

KUAS emphasizes operational competence and R&D potential; more than 90% of its faculty members have professional experience. To

cultivate employability, students need to take internships and be involved with business activities and interdisciplinary courses in order to strengthen their creative and innovative abilities. On average, more than 90% of the graduating classes of the past 5 years have found jobs. KUAS has cultivated highly competitive students with competence in the cultural and creative industries, tourism and hospitality management, integrated circuits, IC layout, and mechanical engineering.

KUAS, Rising to Become a World-Class University

To meet the demands of globalized education, KUAS has recently established international ties with institutions around the world. The university has signed memorandums of understanding with 60 partner institutions in 19 countries to develop joint-degree programs, student exchange programs, and research collaboration. These partnerships are providing new opportunities and enabling KUAS to become a truly international university. KUAS has

demonstrated outstanding performance and has won numerous awards in national project competitions and creative design contests in Germany, Switzerland, the US, Ukraine, Russia, and Japan; projects have involved solar-powered vehicles, hydrogen-powered vehicles, intelligent robots, photovoltaic applications, hazard prevention technology, and creative designs. KUAS is continuing its advance toward becoming a world-class university.

Dr Cheng-Hong Yang is the president of National Kaohsiung University of Applied Sciences (KUAS). He is also a professor in the Department of Electronics Engineering. He received his PhD from the Department of Computer Science, North Dakota State University. His current research interests include algorithms, artificial intelligence, artificial neural networks, and the role of higher education in building the knowledge society. In addition, he is a fellow of the Institution of Engineering and Technology (IET) and the American Biographical Institute (ABI).



The Leader in Application and Innovation

The first ISO9002-certified university in Southeast Asia and in Taiwan(1998)

The first University of Technology-Vocational System with MBA program for Vietnamese students (2003)

The Southern Taiwan School of Solar Energy at KUAS with solar-powered vehicle team representing Taiwan in international races with outstanding performance (since 2005)

The first Taiwan Intellectual Property Management-certified University (2008)

The only EU-BIC three-year member in Taiwan (2014)

The first University-affiliated sports center for community fitness promotion (2014)

Key Areas of Research and Development

Smart electricity and electric vehicles

Green architecture and smart healthcare

Green energy and materials

High speed communication networks and smart commerce and

Smart manufacturing and precision molding

Cultural and creative cities and urban disasters prevention

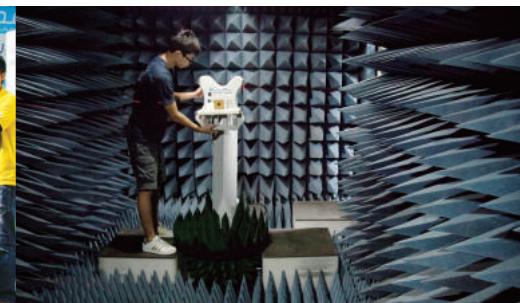
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in Taiwan



TAIWAN TECH (NTUST) – Knowledge and Skills along with Brilliant College Life



The First Technological University in Taiwan

Taiwan Tech was formerly known as the National Taiwan Institute of Technology, the first higher education institution of its kind within the nation's technical and vocational education system, seeking to develop highly trained engineers and managers. After 30 years of evolution, at present Taiwan Tech is comprised of seven colleges (Engineering, Electrical Engineering and Computer Science, Management, Design, Liberal Arts and Social Sciences, Honors, and Intellectual Property Studies), 24 separate departments and graduate schools, 14 interdisciplinary programs, and over 31 technological research and development laboratories, as well as research centers for Taiwan building technology, commatrix, materials science and technology, automation and control, ecological and hazard mitigation engineering, nanotechnology, communication and electromagnetic technology, opto-mechatronics technology, power electronics technology, intelligent robot, construction safety and health, the study of lottery and commercial gaming, e-learning, color technology, information security, sustainable energy development, and IoT Innovation. Our faculty have abundant experience in teaching and research and have at their disposal the best in teaching facilities, including an all-campus wireless network.

Academic Excellence and Effective Cooperation with Industry

Publications by Taiwan Tech faculty in international scholarly journals rank our university among the top 10 of Taiwan's more than 170 institutions of higher education, and we are ranked 3rd in technology licensing. We have also received recognition from the National Science Council for excellence in this area. Taiwan Tech's practical education and applied research are also highly valued by Taiwan's industries. Taiwan Tech has been rated among the top five universities in Taiwan by 1,000 large enterprises surveyed by Cheers magazine. In addition, Taiwan Tech is the only university in Taiwan to have been recognized for seven years in a row by the Chinese Institute of Engineers for excellence in cooperation with industry.

In a related area, Taiwan Tech's Business Incubation Center has frequently been recognized for its outstanding success in mobilizing the university's extensive expertise, research facilities, resources, and experience in cooperation with industry to help small and medium enterprises to create and upgrade their businesses. The center has received the Ministry of Economic Affairs' Award for Excellence in Innovative Research four years in a row. The

research achievements of Taiwan Tech's faculty and students have great commercial potential, and the university has derived considerable income from its intellectual property rights, technology transfers, and licensing fees, placing Taiwan Tech in the first rank of Taiwan's universities for its research capabilities.

Training Students with an International Outlook and Creative Vision

In pursuit of the goal of international outreach, Taiwan Tech established the Office of International Affairs to facilitate its efforts in this area in 2006. In addition, a Creativity Center has been established to develop our students' creative potential through a wide variety of activities and contests.

In future, Taiwan Tech will continue to maintain a balanced emphasis on theory and practice, science and technology and the humanities, advancing on the university's superior foundation—its excellence in research, achievement in cooperation with industry, and promotion of international academic exchange. By mobilizing resources on and off campus, at home and abroad, Taiwan Tech will develop into a world-class university of applied research.



KNOWLEDGE & SKILLS ALONG
WITH BRILLIANT COLLEGE LIFE



THE BEST

TECHNOLOGY UNIVERSITY
IN TAIWAN

CONTACT INFORMATION



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Fax / 886-2-2737-6661

E-mail / undergraduate@mail.ntust.edu.tw

THAILAND

ASIA COUNTRY FEATURES

A Leading Quality University for All

A QS Showcase message from Assoc Prof Dr Luedech Girdwichai, president of Suan Sunandha Rajabhat University



"Suan Sunandha Rajabhat University to become the 'International Niche Guru University' by 2030"

Dr Luedech Girdwichai

President

From Royal Garden To Alma Mater

Suan Sunandha was established in 1937 in the beautiful royal compound of King Rama V as a public high school for girls, named Suan Sunandha School. It became Teachers College in 1958 and Suan Sunandha Rajabhat Institute in 1992 under the decree of King Rama IX. It was on June 15, 2004 when the institution became Suan Sunandha Rajabhat University with the ultimate vision to be the leading quality university for all. Suan Sunandha Rajabhat University has been ranked number one among the Rajabhat universities across Thailand.

Commitment To Society

Our mission is to produce graduates with emphasis on knowledge transferring to local communities, conform good teachers, conduct research, provide academic services to communities, and to promote and conserve arts and cultures.

Core Values

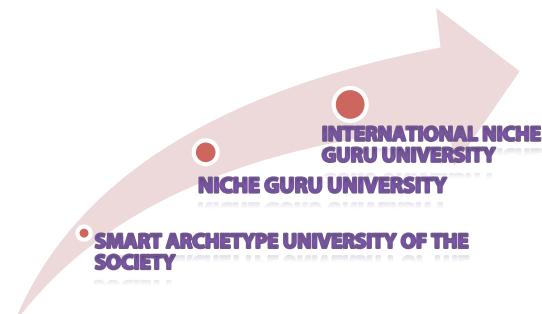
The University's core values are wisdom and creativity, happiness and loyalty, integration and collaboration, and professionalism. We believe that these four core values represent the balance of all aspects.

Integrating Industrial Sector

It is indisputable that industry requires job-ready graduates. Suan Sunandha Rajabhat University has collaborated with major corporations from industry to improve the quality of curriculum and instructional processes, handpick the incoming students and nurture them into highly skilled graduates. This has resulted in the high employability of graduates because they possess the skill set both technical knowledge and soft skills crucially required from the sector.

Evolving Towards Excellence

Suan Sunandha Rajabhat University is proud to be Thailand's leading quality university for all. In keeping with the ever-changing globalization, Suan Sunandha Rajabhat University is aiming to become the "International Niche Guru University" by 2030 when English will officially become the university's second language. The university also targets to produce graduates who have niche expertise and become guru—master in the knowledge of their fields—that meet the future market demand. It is time now to specialize.



Towards this goal, Suan Sunandha Rajabhat University has laid out the roadmap to become the Smart Archetype University of the Society in 2020 and the Niche Guru University in 2025.



Suan Sunandha Rajabhat University (THAILAND)

www.ssru.ac.th



Thailand's No.1 Rajabhat University

MIDDLE
EAST
COUNTRY
FEATURES

LEBANON

MIDDLE EAST COUNTRY FEATURES

Internationalizing higher education for a better tomorrow

By Prof Hady J Mahfouz

President

Holy Spirit University of Kaslik



Internationalization roots in Lebanon

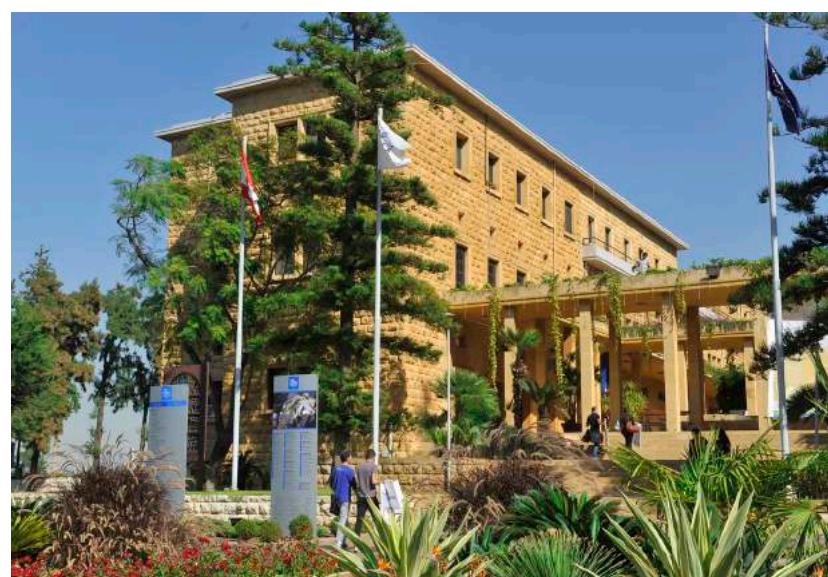
Many chronological instances testify to the interest the Lebanese people have, and have always had, for the world and the development of strong linkages with other countries, peoples and cultures. Sharing and exchanging knowledge, skills and techniques with people from various corners of the world have always been of record in Lebanon. As a matter of fact and according to history, Phoenicians, who are considered as the alphabet forefathers and as the ancestors of the Lebanese people, used to roam the Mediterranean shores to develop their trades and diffuse their renowned craft since the first millennium BC. Culture and knowledge through education and higher education have also demonstrated to be at the core of many Lebanese institutions throughout centuries. The school of Hawka, for instance, established in the sixteenth century by Lebanese Maronite Monks is a conclusive proof of the educational concern that prevailed at that time.

Later on, to allow a broader dissemination of education and culture, Lebanese Monks as well brought the first printing press to the Levant in 1610, and the first printed book is still kept at the library of the Holy Spirit University of Kaslik (USEK). Education was regarded by those monks as a right not a privilege whereby, in 1736, the Lebanese Synod of the Maronite Church took a first-of-its-kind resolution that stipulated a call for mandatory education of all boys and girls free of charge in all Maronite schools. In 1741, Pope Benedict XIV approved that resolution. This culture of exchange and grasping knowledge has been considered, simultaneously, a sine qua non means and an omnipresent objective for the development of education and higher education in the country and the whole region.

Universities as a major hub of international activity

Lebanese universities are also a sign of this historical exchange of cultures. Those that were founded by the different missionary delegations established in Lebanon in the 19th century are now among the best

institutions of the Middle East. Less than half a century later, USEK was created by the Lebanese Maronite Order, becoming de facto the first comprehensive university, which covers various fields, founded in Lebanon by an exclusively Lebanese initiative. The culture and eagerness of the Lebanese to delve into their own heritage, to learn from others, to expand the constantly acquired knowledge and to develop it in order to create new concepts and information that they can themselves disseminate, could be expressed with many examples from history or from the present. The international success of a growing number of Lebanese startups or the achievements of the Lebanese diaspora perfectly reflects this cultural paradigm. This acculturation feature in the Lebanese society is of utmost importance today in the globalized world that is ours. As a matter of fact, globalization is the perfect frame of expression for this cultural and educational interaction that characterizes the relations between the Lebanese and the rest of the world. This can be shown in many different fields, and is perfectly demonstrated by the educational sector. Indeed, internationalization is nowadays an essential part of the life and organization of higher education institutions worldwide and, despite the troubled phases that Lebanon has been witnessing throughout its past up until now, Lebanese universities excel at it.



The Holy Spirit University main campus

Accreditation and online learning: significant marks of internationalization

The internationalization of universities or what is considered as the integration of international dimensions in the different components and constituents of education can be done through various academic structures and activities. MOOCs proved to be an effective and efficient structure of course internationalization and offered the opportunities to students from everywhere in the world to be remotely enrolled in a given subject area that reflect different perceptions, methodologies and experiences. In Lebanon, MOOCs have become very common in the last few years and are designed in partnership with renowned universities in different parts of the world. USEK spares no effort and allocates needed resources to promote online learning by creating the required platforms and constantly training its faculty members to stay tuned to the latest developments in the area.

USEK became, in 2015, the first and, still until now, the only university in Lebanon to join the international Online Learning Consortium (OLC), a platform for the exchange of expertise and providing best practices and guidance to educators around the world. The opening of branch campuses in different countries, internationalizing curricula, and elaborating a language policy are also on the top of the internationalization checklist, while accreditation remains a hallmark in this regard. The last point is essential for the recognition of the universities at the global level. Within this perspective, it is worth mentioning that the Holy Spirit University of Kaslik (USEK) was the first university in Lebanon to complete an Institutional Evaluation Program conducted by the European Association of Universities, and as a result to acquire the Evalag European Accreditation.

Student and faculty mobility and international exposure

The most visible and popular feature of university internationalization is probably the inbound and outbound mobility of students and faculty, and this is a feature in which Lebanese universities can show outstanding figures. According to the UNESCO Institute of Statistics, in 2012, 13,089 Lebanese students (out of 212,237) went abroad to study, either in the frame of an exchange program or as regular students. The same year, some 27,230 non-Lebanese students decided to come to Lebanon to pursue their education. The many events organized by Lebanese universities throughout the year also attract a high number of foreign academic staff. In 2015, USEK alone welcomed more than 300 international visitors. It also hosted prestigious international events, for instance, the 2015 Conference of the Global Confederation of Higher Education Associations for Agriculture and Life Sciences (GCHERA), during which speakers from 17 different countries tackled issues related to nutritional security and environmental sustainability for human health.

It is also worth mentioning that similarly in 2015, the Arab Governance Energy Forum was also organized by USEK, in collaboration with the Arab

Society of Faculties of Business, Economic and Political Sciences (BEPS). The event featured speakers from Lebanon, Canada, Qatar, USA, Tunisia, Egypt, and Jordan on various topics such as renewable energy and climate change, exploration, production, and transportation of oil and gas, geopolitics of energy etc. This important aspect of staff mobility is also very well represented by the high number of "Usekian" staff and faculty members who had the occasion to attend conferences, seminars, study fairs or other activities abroad. This mobility flux reached 408 mobility missions being undertaken up until now for 2015. On another level, USEK also has an active and decisive presence in international and regional associations, holding membership of around 50 international organizations.



USEK vibrant community, a host university for many exchange students and international guests

Partnerships and international projects

The diversified and numerous partnerships established by Lebanese institutions with universities from all around the globe are also a good example of this strong will towards accomplished institutional internationalization. Hundreds of official agreements have been signed between Lebanese universities and foreign academic institutions, companies, United Nations agencies, and European delegations, associations or foundations, allowing the aforementioned mobility of students, staff and faculty and international internships. The creation of joint degrees between two or more institutions and enhanced research cooperation are also tangible results of these partnerships. USEK has signed 140 partnership agreements with universities located all around the globe, in addition to more than 20 non-academic partnerships with various networks, like the AUF, UNIMED, the Food and Agriculture Agency of the UN, international companies and embassies. Institutions also collaborate on joint projects funded by the diverse programs of the European Union. Since 2010, 30 of the chosen Tempus projects (now renamed Erasmus+) had at least one Lebanese partner. USEK has been involved as a partner in eight of them, and is the coordinator of a project on "Professional Standards Framework for Excellence in Teaching and Learning in Lebanese Universities – E-TALEB", the only project awarded to a Lebanese institution by this year's Erasmus+ Program.

International research

As internationalization also enhances the performance of research, the cooperation of Lebanese and international researchers have already contributed to building a sustainable Lebanon. Thanks to common research projects, cutting-edge discoveries have been made, and it is certain that they will keep on providing the researchers with all the necessary data to discuss and eventually find plans and alternatives to local and regional issues. USEK, through its Higher Center for Research, is currently fostering different joint projects, being mostly developed in partnership with other universities or research centers abroad and focusing on major global challenges, in all fields of research.

Internationalization of universities is already well established in Lebanon: it is part of the general strategies of the main local institutions, and is expanding further and further every day, showing the determination of these Lebanese academic institutions to overcome the challenges resulting from the current regional political and economic situation. This process, which of course benefits all people involved in the education cycle, can also have an impact beyond campuses, to reach the whole society in which they blossom and positively impact the reputation and the economy of the country itself. Internationalization facilitates a better exposure and the proper dissemination of the good reputation of the Lebanese universities; it also allows the recruitment of more students and staff from other regions and countries.

For a better tomorrow...

Students, the essential core of universities, will benefit the most from the international opportunities, learning how to use them to positively impact their surroundings. By studying in an internationalized institution, enjoying curricula that are harmonized and in sync with the global needs, and by going abroad, acquiring new languages, meeting people and experiencing diversity, students learn how to tackle difficult situations with various tools, like communication and the use of empathy. They learn not to fear what they don't know or don't understand. They learn how to cope with differences, find common grounds, and make compromises. Thanks to the internationalization of the universities in which they pursue their



USEK Green Campus

studies, they become accomplished citizens of the world, promoters of peace and advocates of the so-needed harmonious coexistence. Therefore, the legacy of the past in terms of culture and education along with an internationalized present render benefits to students enrolled in Lebanese universities, which doubtlessly leads to a better tomorrow.

Hady J Mahfouz (Fr) became the 12th president of the Holy Spirit University of Kaslik (USEK) in July 2007. Since taking office, he has been striving to implement a new vision in line with the tercentenary tradition of education, culture and community service promoted by the Lebanese Maronite Order of Monks. Father Mahfouz has focused his efforts on comprehensive internationalization and on consolidating pillars of excellence and quality at USEK. He has instigated a shift from teaching to learning, and established a student-centered strategy at USEK. Father Mahfouz was awarded his PhD in Biblical Sciences from the Pontifical Biblical Institute of Rome in 2002. He has lectured and published several articles and books. In 2013, Fr Mahfouz was elected president of the Conference of Rectors of the Middle East. He serves on the Global Advisory Council of World Learning and on the board of the Union of the Mediterranean Universities.

PALESTINE

MIDDLE EAST COUNTRY FEATURES

Modern trends invade higher education institutions in Palestine

By **Prof Maher Natsheh**

Acting President

An-Najah National University



The development of higher education in Palestine is considered a relatively recent phenomenon. Two-year colleges have existed since the 1950s, with no legitimate national authority whatsoever capable of directing this sector. It was not until the 1970s that the first university in Palestine was founded. These institutions were part of a Palestinian collective effort to preserve the identity of the nation as well as to provide young Palestinians with the opportunity to pursue higher education, after it became dramatically difficult for them to go abroad for such studies.

It is worth mentioning that about 214,000 students are enrolled in these institutions, and the estimations dictate that the gross enrollment rate for the age group of 18–24 year olds is more than 25.8%. Nevertheless, according to Higher Education in the Occupied Palestinian Territory – 2012 report published by Trans European Mobility Program for University Studies "TEMPUS", insufficient funding is an ongoing major concern, which has an enormous impact on the quality and relevance of higher education in the country; nearly 60–70% of the operating budgets of universities are covered by tuition fees and, since there is no regularity and consistency in the payment of tuition fees, universities suffer yearly budget deficits.

To overcome these and other challenges, two milestones have been created; the first one was establishing the Quality Improvement Fund (QIF) program as a result of the cooperation between the World Bank and the Ministry of Education and Higher Education. QIF aims at providing support to improve the quality of Palestinian tertiary institutions so that they stay relevant to the job market and the economic development of Palestine, and comply with international standards and be capable of developing income-generating programs. Although administered separately, the primary purpose of the QIF fund is to improve quality and relevance in tertiary education and is therefore closely linked to the national accreditation process and the institutional self-evaluation initiative. Since 2005, QIF has funded 45 projects in five different cycles (24 new partnerships and agreements with private, public and international organizations, eight new academic programs, study tours etc).

The second milestone is related to the internal organization of Palestinian quality assurance policies and standards. This has been achieved through upgrading the Palestinian quality policies in terms of tertiary education in 2002, simultaneously with the establishment of the Accreditation and Quality Assurance Commission (AQAC). The commission is a national body, reporting directly to the Minister of Higher Education, with a governing board of academics, professionals and representatives from both the public sector and the civil society. AQAC is a member of several international networks for quality assurance, such as the International Network for Quality Assurance in Higher Education and the Arab Network for Quality Assurance in Higher Education. In this context, AQAC negotiates cooperation agreements with regional and international quality agencies for the mutual recognition of accreditation decisions and degrees. The utilized approach in Palestine to achieve the best practices in quality assurance is based on the belief that internal quality assurance is the basis for adopting the external one. As a matter of fact, top management layer in Palestine believes that external quality assurance evaluation is compulsory, and applies to public and private institutions, university and non-university sectors and all types of academic and vocational programs.

When it comes to the international accreditations, the Accreditation Board for Engineering and Technology (also known as ABET) has made its way to Palestine after accrediting 7 engineering programs at An-Najah National



Palestinian Universities: everlasting expansion

University through the Engineering Accreditation Commission (EAC). ABET, established in 1932, is a non-governmental organization that accredits post-secondary education programs in applied science, computing, engineering and engineering technology. ABET also provides leadership internationally through workshops, consultancies, memoranda of understanding, and mutual recognition agreements, such as the Washington Accord. Furthermore, ABET accredits approximately 3,600 programs at over 700 colleges and universities in 29 countries, and its criteria and standards for accreditation are similar to those utilized by the universities in the United States. Beside An-Najah University, other Palestinian universities are currently working on obtaining this accreditation, which makes ABET one of the most essential enablers of internationalizing the quality concept in Palestine.



ABET's delegation at An-Najah National University, Palestine

Many steps have already been taken towards achieving the goal of improving the quality of education and educational opportunities in Palestine in several areas, one of which is community-based learning (CBL)—a coalition between the higher education institutions and their counterparts from local community, public and private sectors. CBL is a pedagogical approach that is based on the premise that the most profound learning often comes from experience that is supported by guidance, context-providing, foundational knowledge, and intellectual analysis. As an example, the Center for Excellence at An-Najah National University launched its community-based learning program in August 2013. The program included the planning, design and implementation of 10 CBL courses from the faculties of Education, Engineering, Medicine, Veterinary Medicine, Humanities, and Economics and Social Sciences, and was accomplished in May the year after.

The main focus of the CBL initiative is to engage learners with the surrounding community, maximizing the benefits for students. The learners become more familiar with their potential employers' way of thinking, in addition to gaining the basics of the soft skills that are crucial

in the workplace. In turn, the target community benefits by having their projects, which need much time, effort and work force, accomplished by the students and their professors.

Another trend in improving institutional quality in Palestine is seeking international consulting perspective from experts in higher education institutions overseas. The evaluation process of a university or higher education institution is conducted via external parties such as the Institutional Evaluation Program (IEP), subsidiary to the European University Association. This program offers evaluations to support the institutions in the continuing development of their strategic management and internal quality culture. IEP was inaugurated in Palestine in 2011 at An-Najah National University. This program puts emphasis on the engagement of all stakeholders at strategic, tactical and operational levels in the institution, gathering feedback from the community, clientele and students during the evaluation of institutions' governance, management, strategic planning, research, community service, development in learning and teaching, quality assurance, quality management and quality culture.

As for implementing technological advancements in higher education institutions, one of the most recent breakthroughs is electronic educational technology, also known as e-learning. The majority, if not all, of the Palestinian universities have their own academic portals dedicated for both students and professors. Although less developed than portals installed at American University of Sharjah in the UAE or King Fahd University in Saudi Arabia, these portals have become an essential part of university's assets in the promotion of teaching and learning. Nowadays, Palestinian institutions are aware of the fact that a university without an innovative e-learning program is a vulnerable, outdated institution, not distanced from an inevitable "educational bankruptcy".

Many Palestinian universities have adopted an e-learning paradigm in the last decade, embedded many electronic courses and invested significantly on equipping faculties with basic electronic needs. Although far greater than current developments should be achieved, the endeavors for continual development of e-learning remain in progress, despite the delicate and unstable financial situation of the higher education sector. Moreover, higher education institutions in Palestine steadily seek to participate in joint academic international programs with their counterparts around the world, especially with European universities to create long-lasting collaborative models for delivering international joint study/research programs; a PhD double degree in physics between An-Najah University and Lancaster University gives an example of already implemented joint programs in Palestine.

In that context, through the development phase, the universities have contributed to promoting structured cooperation among higher education institutions and to offering enhanced quality in higher education with a distinct international added value. This induces the creation of joint quality

assurance procedures and supervision of academic program dissertations, in addition to student mobility between Palestine and the world to discover the cultural diversities.

The new European program for education, training, youth and sport for 2014–2020 commonly known as “Erasmus Plus” or “E+” is an obvious example of the cooperation being held between the European Commission and the higher education system in Palestine. Erasmus Plus has a mission to implement, coordinate and promote the international dimension components in Palestine as well as boost graduate skills and employability by modernizing education, training, and youth work in the country.

At the same time, Palestinian universities have established cooperation among one another in opening joint postgraduate programs in recent years, such as sustainable engineering joint master program between Birzeit university and An-Najah university, and joint MA program in criminal law between Al-Quds university and An-Najah university as well.

Higher education institutions in Palestine have been making efforts to cope with the challenges, but there is still a long way to go. The Ministry and the higher education institutions should join hands to facilitate the entry of more and more trends in the forthcoming future.



Prof Maher Natsheh is the acting president of An-Najah National University (ANU). He was the dean of the Faculty of Science and the former head of the Chemistry Department at the university. Professor Natsheh has received numerous awards in conducting applied research, and has published more than 28 articles in international scientific journals.



Eng Ahmad Fuad is an institutional research engineer at An-Najah National University. He is currently working in quality, planning, institutional development and research fields and has been a local and international consultant with a significant base of clientele.



Dr Ayham Jaaron is currently the director of Quality Assurance Unit at An-Najah National University. He is also the director of ABET Centre at the Faculty of Engineering and Information Technology, and assistant professor at the Industrial Engineering Department.

LATIN AMERICA COUNTRY FEATURES

COLOMBIA

LATIN AMERICA COUNTRY FEATURES

Towards excellence in higher education in Colombia: a brief history of an ongoing revolution

By Pablo Navas

Rector

Universidad de los Andes



In this article I summarize the system of post-secondary education in Colombia. I will present four main aspects of the system. In the first section, I show the recent evolution of the system; in the second section, I observe the impact in the system of the accreditation of the institutions; in the third section, I make a connection of quality and coverage; and in the final section, I summarize a sudden perturbation for a quick change in the system.

The evolution of the post-secondary system

The key driver of the system of higher education in Colombia has been increasing the coverage rate. This rate is measured as the percentage of the population from 17 to 21 years old that is enrolled in post-secondary education. As illustrated in Chart 1, the effective coverage rate rose to 46% from 1970 to 2013. In spite of this effort—an increase by a factor of eight in forty years—the coverage rate is still less than the rate of the OECD which is 65%.

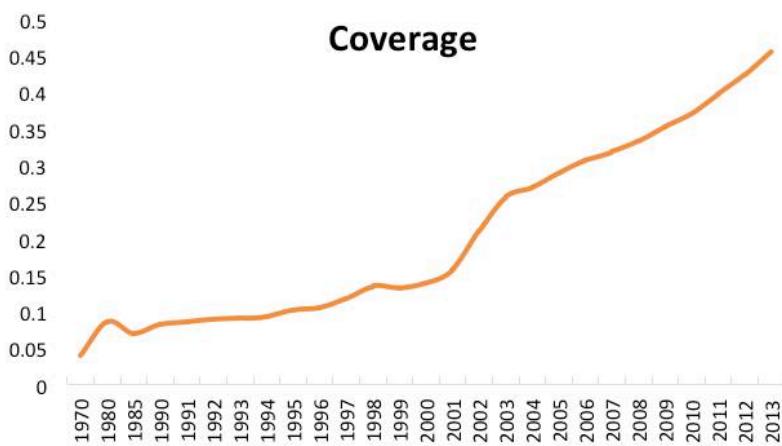


Chart 1. Effective coverage rate in post-secondary education; source: Ministry of Education

On the other hand, the expenditure in higher education as a percentage of nominal GDP has been the same since the beginning of this century, neighboring 2% (Chart 2), while in the OECD this number is 2.8%. The role of private not-for-profit institutions has been very important in the dynamics of this expenditure. It is important to note that during this period, the economy of the country has grown in real terms at a steady rate of 3.5% per year (Colombian Central Bank: www.banrep.gov.co/es/pib). The lack of growth of the expenditure as a percentage of the GDP in post-secondary education in a context of constant growth of the economy is particularly odd.

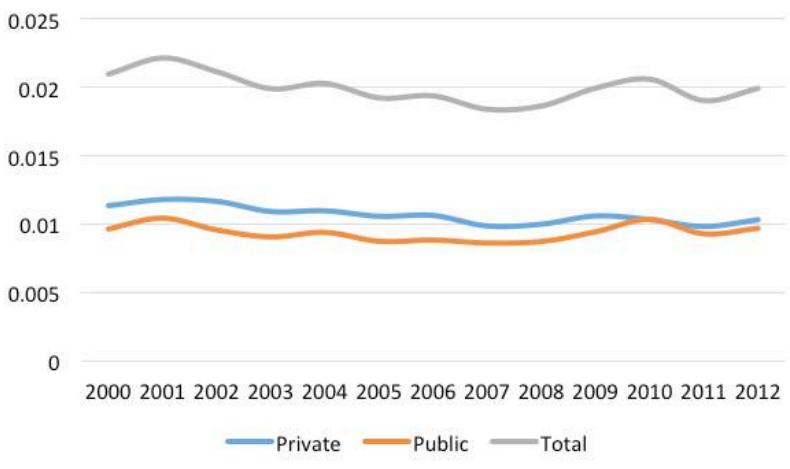


Chart 2. Expenditure in higher education as % of nominal GDP

This may be a major shortfall of the Colombian higher education system. As a matter of fact, larger amounts of financial resources will be required to absorb two million youngsters that do not ever enroll in the post-secondary education system. This number does not include the drop-outs after enrollment.

In this context, the need for a better higher education system is essential for the development of the country. As a result, the Government lately announced larger investments in education, which for the first time in decades was higher than in national security. This is an important moment for a significant change is happening: the country must not only search for a wider system, but also a better one. There is a widespread agreement that

the improvement of the quality of the system is as relevant as its coverage. Quality is becoming a cornerstone for the allocation policies of future funding to institutions as well as to individual students.

An observation to the quality of the higher education system

This dynamism of the higher education system has challenged key features regarding quality and excellence. In 1990, the General Law for Higher Education established a National Accreditation System in order to "provide a testimony of the State on the quality of an academic program and/or an institution, based on a previous evaluation process in which the higher education institution, the academic community and the National Accreditation Council take part" (www.cna.gov.co/1741/article-186365.html). This has provided an institutional framework to assure the quality of the institutions.

The National Accreditation Council (CNA, for its initials in Spanish) was created as an independent, publicly funded organization affiliated with the Colombian Ministry of Education. Its mission is to design the standards that high-quality academic programs and institutions should meet. As part of the process that has to be carried out to obtain accreditation, the CNA advises the ministry to grant accreditation to academic programs and to institutions upon the compliance of the criteria that has been defined.

The accreditation of the institution is a quality mark among Colombian higher education institutions. In fact, accredited institutions remain a small percentage (see table 1). This is partially due to the fact that accreditation is a voluntary process. Although institutional accreditation brings a series of benefits that should be a strong incentive to achieve the percentage is still quite low. It is sad to say that there still exists a very high percentage of higher education institutions that are a long way from a minimum accepted level of quality.

Type of Institution	Accredited	Total	% of Accredited of Total
University	31	82	37.8%
Other post-secondary institutions	7	206	3.4%
Total	38	288	13.2%

Accreditation balance of institutions

A connection of coverage and quality

The connection between quality and coverage is crucial. The cost of high quality education is one of the main obstacles to close the gap between accredited and non-accredited institutions in Colombia. In chart 3 we observe that the average operational cost per student of accredited universities can be four times higher than the cost in non-accredited institutions. However, a research lead by the Universidad de los Andes,

shows that the internal rate of return in accredited institutions is, on average, up to 8% higher per year than for non accredited institutions (see chart 4).

Unfortunately, in 2014 only 18% of enrolled students attended an accredited institution. For obvious reasons, among them the noted rate of return, the challenge to increase this percentage is immediate. This increment is related to the quality of the students that complete secondary education.

In Colombia we measure the quality of students that complete secondary education a standardized test. The name of the test is Saber 11. Students are classified into high, medium and low tiers, according to their performance in the test. As seen in chart 5, new students from the low tier have displaced those who came from the High tier, while the medium tier has remained stable. These results have a direct impact on the quality of the input to the higher education system, since this test (Saber 11) is one of the main criteria for admission to post-secondary programs in Colombia.

Another aspect is the change of the economic background of the students that complete secondary education. In chart 6 we observe that there is an increment of students that come from low-income families (This is measured on the range of monthly income of the nuclear family in minimum monthly wages (SMMLV). A SMMLV is equal to US\$220 per month).

Average yearly operational cost (2014)



Chart 3. Operational cost per year in 2014 (Colombian peso)

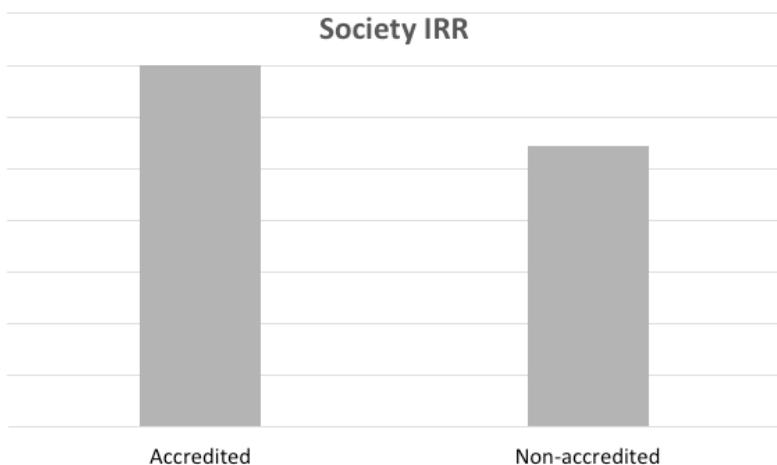


Chart 4. Society IRR under a publicly funded scenario

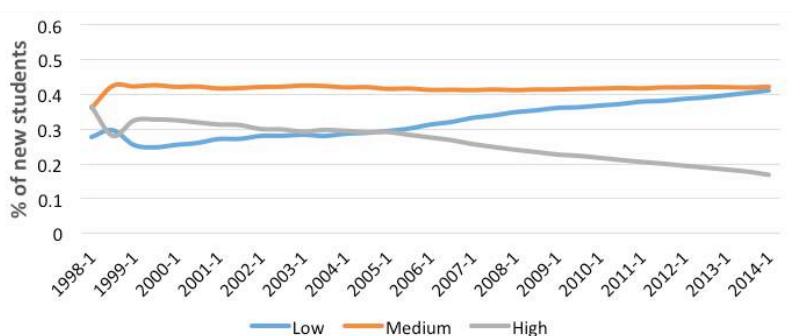


Chart 5. Student performance in Saber 11 test of newly enrolled in post-secondary programs

In the described context, the research that has been mentioned showed that the top performers in the test that come from very low income families do not enter accredited institutions. In contrast, these students have outperformed many of the students that come from wealthier families, but they are denied the chance to access these high quality institutions for financial reasons. According to the study, around 17,000 out of the 45,000 students that rank at the highest 7.5% in the test, come from families with very low income. Only 3,000 students enroll to a post-secondary education program in the immediate five years after obtaining their high-school diploma, and the rest are left outside the system.

A sudden perturbation for a quick change in the system

To correct the situation, the Colombian government has launched a national scholarship program that will cover tuition and living expenses for high school graduates that come from very poor families. The program will grant 10,000 scholarships per year. The first 10,000 students are

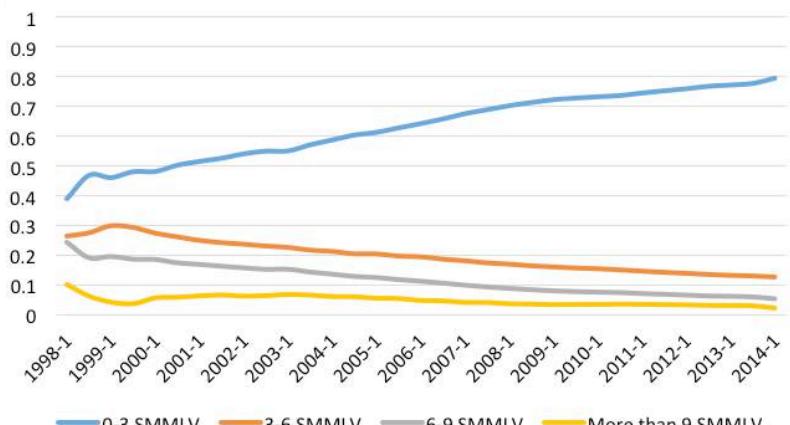


Chart 6. Family income distribution of newly enrolled students in post-secondary programs

completing their first academic year next month. By 2018, there should be 40,000 recipients. The public investment in the program will be around US\$1.3 billion.

In addition to the benefits for the individual students there are many other benefits for the system as a whole. One that must be mentioned is the increase in the diversity. For example, the Universidad de los Andes experienced a substantial increase in the number of students with the socio-economic characteristics of the students in the program from 12 to 600. This change brought positive changes in the whole institution. Other results are the many strategies that most universities, if not all, have designed to attract and retain a new population that was previously outside their grounds.

And just to mention only one unexpected measure is the progress in the results in the entrance test that was mentioned earlier. One measure that had an increase above the expected results was the standard deviation. An increment of 8.25% of the standard deviation of a system with 540,000 students meant that the new students that will join the program in 2016 are better prepared than the first ones. This program is an example of a sudden intervention that can make a big change to the post-secondary education system in Colombia.

Pablo Navas was born in Bogotá, Colombia, in 1950. He received a Bachelor of Science in industrial engineering from Cornell University and a Master of Business Administration from Universidad de los Andes in Bogotá. Mr Navas was appointed as president of Los Andes University in November 2011, after having served on the university's board of trustees in various capacities for over 30 years. He is a board member of various ONGs and presently is the representative of the President of Colombia in COLCIENCIAS advisory board. He is the author of *The Journey of Frederic Edwin Church through Colombia and Ecuador, April–October de 1853 (2008)* and *Colombia en Le Tour du Monde (2012)*.

MEXICO

LATIN AMERICA COUNTRY FEATURES

Challenges of higher education in Mexico

By **Itzcóatl Tonatiuh Bravo Padilla**

General Rector

University of Guadalajara



In its beginnings, throughout the colonial era, higher education in our country was characterized as being elitist and selective. Later, after the Independence, the Reform and the Revolution, it went through great transformations in keeping with the sociopolitical and cultural changes that came about in each of these historical periods. During this process, starting with the post-revolutionary stage, it took on a more open and democratic profile. This led to expanding its coverage toward the different social groups.

Historically, higher education institutions, public universities in particular, have played a fundamental role in the socioeconomic, political and cultural development of Mexico. The functions carried out by these institutions of professional training, scientific research, extension of knowledge and dissemination of culture, among others, constitute a key factor in the generation of a civilized citizenry and a democratic culture.

In fact, autonomous public universities have been characterized as fertile ground for the cultivation of knowledge, criticism, reflection and the discussion of ideas. Autonomy has been a guarantor of academic freedom and research, of the plurality of ideas and the free expression of beliefs, as well as of respect for diversity—essential elements in the accomplishment of the public university's mission.

Today, according to the World Bank, higher education "is facing unprecedented challenges, arising from the convergent impacts of globalization, the increasing importance of knowledge as a principal driver of growth, and the information and communication revolution." Even so, every challenge opens doors to the generation of new opportunities.

In the first instance, it is estimated that of Mexico's 120 million inhabitants, more than 38 million are in the 12–29 age group, representing approximately 30% of the population, the largest number of school age young people in the history of the country.

On the other hand, according to estimates presented in Enrique Peña Nieto's Second Government Report, corresponding to the 2013–2014

school year, the Mexican higher education system comprises almost 4 million students, served by just over 361,000 teachers in 7,203 schools.

These figures show that the educational coverage at the top level is below 40%; i.e. almost 7 out of 10 young people at this level of education are left out of the higher education institutions. This proportion of coverage is low, even if we compare ourselves with nations with similar or lesser economic development such as Uruguay (64%), Argentina (68%), Chile (52%) and Venezuela (79%). It would be desirable to reach at least 50% in the present federal administration's remaining years.

Additionally, according to the Organization for Economic Cooperation and Development (OECD), in 2013, 20% of the 15–29 year-olds in Mexico were registered without study or work, which demonstrates profound structural deficiencies and inequities in access to the upper level and employment in our society

Against this backdrop, higher education—a public good and an inalienable right of every citizen as conceived by the United Nations Educational, Scientific and Cultural Organization—must preserve its potential as a factor of mobility and social equality; and continue being a promoter of social inclusion and cohesion and sustainable development, in order to overcome poverty, among other things.

This task has become more imperative in the context of an economic system that accentuates the concentration of income in a few groups and individuals, both nationally and internationally, making for an ever-widening gap between the rich and the poor. Inequality is such that 10% of Mexicans own 40% of the national wealth.

Meanwhile, responding to the phenomenon of globalization's inherent pressures, a trend has emerged: converting education, traditionally considered a public service, into a commodity subject to the laws of the marketplace. Such a situation has led to the emergence and development of institutions of various kinds that offer higher-level educational services beyond national borders, a phenomenon known as "transnational education". In response, the issuance of standards with regional or global acceptance and implementation is urgent. An example of this is the creation of common spaces such as the Ibero-American Knowledge Space (Espacio Iberoamericano del Conocimiento), to which Mexico belongs, with the purpose of ensuring the quality of education.

Toward the interior of the nation, higher education should evaluate public policies and mechanisms of educational quality assurance assessment in order to improve them. In this regard, the majority of public HEIs in Mexico have been subjected to processes of assessment and accreditation for years, although it is still necessary to promote greater coordination between the various modalities of assessment and strengthening of quality as well as trying to standardize methods, purposes and procedures.

Another challenge facing Mexican higher education is the renewal of the teaching staff in response to the natural aging process and the recruitment of new teachers who meet Mexico's Teacher Improvement Program profile as well as the development of teacher training programs. This process is hampered, however, by the meager institutional conditions for a respectful retirement offered to aged academics.

At the same time, it is necessary to resolve the excessive concentration of enrollment in the so-called traditional careers of law, public accounting, management, medicine, psychology, international business, tourism and marketing. Furthermore, it is important to diversify educational offerings through innovative and cross-disciplinary options, especially those related to scientific and technological development, which are commensurate with multi-functional and versatile profiles and are open and adaptable to the dynamic and changing scenarios that a knowledge-based society demands.

Likewise, the use of information and communication technologies needs to be incorporated into all the academic scenarios of higher education institutions, outlining strategies for teachers and students to acquire proficiency in a second language and promoting more active participation in non-conventional educational modalities. An example of this is the University of Guadalajara's Virtual University System, where online enrolment has reached almost two percentage points.

The issue of financing is one of the greatest challenges before the Mexican higher education system. Having adequate economic resources allows universities to carry out their core functions in optimum conditions, making it easier to get good results and base future growth on a solid foundation. Income for public institutions' budgets comes from generation of resources by themselves, state and federal contributions, and from extraordinary income through bidding for Extraordinary Funds in Support of Higher Education (Fondos Extraordinarios de Apoyo a la Educación Superior).

This situation contributes to complex negotiations and agreements with the respective state governments, which wearies universities, distracts them from their mission, and has caused more than one disagreement between universities and authorities. There is clearly a need then for modifying both the state and federal mechanisms for granting resources to higher education institutions.

It is desirable that there be a policy for long-term financing through multi-year budgets in accordance with clear rules or indicators, which would encourage institutions to do their job better. As has been proposed by the Federal Government, it is urgent that the investment in higher education steadily increases until it reaches at least 1% of the GDP.

Meanwhile, higher education institutions must strengthen and increase their own sources of income, entailing the involvement of academic units in the exercise of the budget, project management and the securing of external funds.

The economy in a knowledge-based society relies increasingly on the knowledge-technology binomial, which, in turn, is related to increase in productivity in societies that have experienced greater dynamism in research, development and innovation. It is a proven fact that countries that have invested heavily in these areas have achieved significant dividends in terms of economic growth with consequent improvement in the social conditions of their citizens.

We need to ensure that science, technology and innovation act as levers for development in Mexico, as is the case in countries with more advanced economies. Even if the federal government's proposal that expenditure on science, technology and innovation should increase from the current 0.5% to 1% during the next 6 years was to materialize, we'd still be below the average of 2.3% among OECD countries, and very far from what countries such as Israel (4.2%), Korea (4.1%) and Finland (3.3%) invest. These nations are well known for having an excellent rate of development, so we must make an extraordinary effort to support this position.

The public higher education institutions conduct more than 70% of the research carried out in Mexico. In spite of this contribution, it is urgent that this activity is given a position of priority on the institutional agenda and, of course, that the relevance of the results of scientific work to the needs and demands of society be guaranteed.

Another major challenge to our higher education system lies in fostering a harmonious and fruitful relationship with the government, as well as social and private sectors, in order to boost the processes of innovation and socio-economic development. An open, honest, and committed relationship with the productive sector would allow the higher education sector to increase technology transfer and the number of patents with the resulting benefits to researchers and the academic institutions themselves.

On the other hand, in spite of the progress made in the internationalization process of Mexican higher education institutions, they still need to adjust their educational models and their study plans and programs to ensure their relevance in a knowledge-based society.

These measures should aim at improving students' profiles for competing in the global market, at developing actions in the areas of teaching, research and innovation whose quality will have an impact in the international arena, and also at participating in global networks and partnerships of cooperation in higher education.

In countries such as Mexico, marked by great social inequalities, universities are obliged to contribute to the educational and cultural development of the population through the dissemination of the region's, the country's and the world's artistic and natural heritage, which in turn contributes to sustainable development and to counteracting inequality, social exclusion and poverty. The challenge in this regard consists of promoting equal access to culture, to creating spaces dedicated to teaching, as well as to the observation and research of artistic creation; also to generating and participating in networks of exchange that will enhance the cultural development of society.

We must have flexible and effective processes in the area of management and government, with professional and competent administrative personnel, as well as clear schemes of accountability and proven social commitment.

In summary, in the context of a knowledge-based society, our country requires universities that are modern, flexible, relevant, financially viable,

and of proven quality and social responsibility, and are able to contribute to the formation of a cohesive, inclusive and democratic society. This will not be easy. Even so, the steps that have been taken should be consolidated with the aim of opening up more opportunities of development for universities with views to a future where this educational level is accessible, high quality and delivered through multiple modalities.

Itzcóatl Tonatiuh Bravo Padilla has a BA in economics from the University of Guadalajara, Mexico, an MA in public administration from the University of New Mexico, USA, and an MA in information society and knowledge from the Open University of Catalonia, Spain. His research work includes topics related to Mexico's higher education financing system, financial oversight and public policies. He is author and co-author of 17 papers and many public outreach articles. Since 1993, he has held various positions at the University of Guadalajara. Also, he has been council member at the City Hall of Guadalajara and Federal Congressman in two legislatures (1994–1997 and 2006–2009). At the recent legislature, he was the chair of the Committee on Public Education and Educative Services. In January 2013, he was elected as general rector of the University of Guadalajara for the 2013–2019 period.

AFRICA

COUNTRY FEATURES

EGYPT

AFRICA COUNTRY FEATURES

Higher education in Egypt: history, development and the future outlook

By **Prof Hussein Mohamed Eissa**

President

Ain Shams University



Higher education is a corner stone in the development of any nation, but it has a very special importance in developing nations, as a backbone of their struggle to join developed nations.

Egypt has a long history of endorsement of higher education for its citizens as well as Arab, African and Middle Eastern students.

The first university that started functioning in modern Egypt was Al-Azhar University in 970 AD; Cairo University was established in 1908, Alexandria University in 1938 and Ain

Shams University in 1950.

Modern Egyptian higher education like in many other countries is classified into the two categories of governmentally owned and supported, and private. The former are mainly universities, high institutes that are specialized in certain specialties of education and research institutes. All higher education institutes are under the supervision of Ministry of Higher Education and all universities are audited by The Supreme Council of Universities, which is a governmental body.

The National Authority for Quality Assurance and Accreditation of Education was set up in 2006; it is an independent body that reports to the Egyptian Prime Minister and is in charge of accrediting educational institutes on an individual basis on the national level to ensure that these institutes meet international accreditation criteria with the aim of having all Egyptian universities provide standardized education quality services. When an institute is accredited, it is then closely audited and re-accreditation is needed every five years. All Egyptian higher education institutions and their auditing and accreditation bodies are obliged to have clear vision, mission and strategic plan that are closely audited.

Higher education in developing countries, and in Egypt in particular, faces evident challenges: 1) funding during difficult economic situations nationally and internationally; 2) convincing people of the importance of investment in this vital sector and of giving equal opportunities to all

people to enjoy education with dignity irrespective of their gender, religion, race or socio-economic class; 3) difficulties in running respectable scientific research in these countries with incomplete research infrastructure and scarce funding; 4) accommodating large numbers of students in higher education premises that are not designed primarily for those large numbers of students, specially in heavily populated countries like Egypt; 5) providing social support for students who struggle to stay on the educational track due to socio-economic difficulties; 6) international accreditation and ranking, in comparison to much wealthier and reputable institutions worldwide.

Egyptian higher education has been subjected to many reform programs to overcome the above-mentioned challenges, especially after the 2011 and 2013 revolutions, which have during the past few decades decreased the quality of our graduates and reputation of our universities as well as international recognition of our educational institutions, something that the whole higher education community in Egypt is determined to put an end to.

The Ministry of Higher Education has led two important initiatives for reform: 1) a special committee was formed to completely reform the law that regulates higher education in Egypt, to more flexible laws that allow a higher degree of freedom to university administrators to adopt modern strategies of teaching, assessment, research and improvement of graduate employability; 2) a strategic plan was set for the next ten years to increase the competitiveness of Egyptian universities on the international as well as Arabic and African levels.

This strategic plan is based on a vision: into more globalization, internationalization and international accreditation; and has a mission to focus on the production of a graduate who is more competitive on national and international levels. The strategy is based on maximization of usage of current capabilities and raising more funds for acquiring more capabilities by thinking outside the box.

Egyptian universities on individual bases lead efforts to increase their international exposure, raise their competitiveness, assure standardization of their methods of education, and increase employability of their graduates. I will give an example by explaining some of the efforts done

by Ain Shams University to achieve some of these goals; needless to say that almost every Egyptian university has made similar efforts towards the common goals.

A) Ain Shams University voluntarily adopted a strategy based on exposing itself to international auditing by respectable international bodies of accreditation and ranking of educational institutes, not only to increase its recognition in the international arena but also to get help in formulating a plan or road map for improvement. After thorough investigation, we chose QS Stars rating system for that aim. We are proud to be the only star-rated institution in Egypt but more proud to have adopted the road map given to us by QS as a strategic plan for development for the next three years, after which a re-audit of our institution is taking place by QS in a strong hope for a more solid outcome.

B) A special program has been adopted to synchronize scientific research in the university with the needs of industry. It has propelled a really dignified mutual collaboration between Ain Shams University and more than 50 giant national industrial bodies based on mutual respect and interest. We do plan to maximize the function and benefits of this program and to vastly increase beneficiaries.

C) A special office with satellites in different university faculties were set to help improve employment and employability of our graduates with initial statistical indications of being on the right pathway

D) A special program called EDUEGYPT was devised: 120 faculties of different Egyptian universities have already joined, with 80,000 graduates involved, training them on the special extracurricular working skills needed for employment with early signs of real success.

E) Special program with banking institutes has been created to foster commercial skills in graduates and improve their employability.

F) Tens of joint programs and joint degrees with universities in the UK, USA, Germany and other countries have been created to increase our university recognition and internationalization. Exchange programs for undergraduate and postgraduate students are in function with more than a hundred universities worldwide in five continents.

G) Ain Shams University is leading an effort in cooperation with the Supreme Council of Universities for training of trainers, aiming at the certification of academic faculty of all universities to attain professional license to serve as a higher education teacher, which is renewable every five years to assure quality education. A number of UK universities will be helping Egypt meet international standards.

H) Ain Shams University has adopted complete reform of examination and evaluation of both undergraduate and postgraduate degrees. All exams, which were thought to be clearly subjective, are now fully objective with



Ain Shams University main dministrational building (El-Zaafra Palace)

adoption of modern methods of teaching and evaluation like small group discussions, OSPE, and OSCE exams.

I) Most of Ain Shams University faculties are now accredited by The National Authority for Quality Assurance and Accreditation of Education and a special department is functioning in each faculty to attain that accreditation for the few faculties yet to enjoy it and to perform internal audition aiming to keep this position of accreditation in the accredited faculties.

On the national level, the Supreme Council of Universities is diligently working on raising funds through non-traditional methods while adhering strongly to ethical aspects so as to assure that raising funds would not affect the integrity and transparency of educational process.

We are proud of our 7000 year-old history, but we feel dissatisfied with our position among today's nations. Egypt of today is having real open doors, eyes and ears to all new developments in the world of education, and is ready for all kinds of collaboration with all nations—being a nation of true cosmopolitan population that for centuries welcomed all visitors of the world and all useful new ideas.

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RWANDA

AFRICA COUNTRY FEATURES

Transforming higher education in Rwanda

By **Verdiana Grace Masanja**

Director of Research and Postgraduate Studies

University of Rwanda

and

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Country demographics

The Republic of Rwanda is a landlocked country bordering Uganda, Tanzania, Burundi, and the Democratic Republic of Congo, which gained political independence in 1962 from the Belgian colonialists. It is located in east central Africa. Its surface area of 26,338 square kilometers and the 2012 number of inhabitants of 10,515,973 (52% Female, 48% male), according to National Institute of Statistics Rwanda (NISR), makes the country the most densely populated in Africa (477 people per square kilometer). With an annual population growth rate of about 2.5%; as per 2012 census, 50% of the inhabitants are aged below 19 years and 3% above 65 years which means every 100 people of an economically active age are theoretically expected to be responsible for 113 people of inactive age (NISR). Currently, Rwanda's economy is estimated to grow at an annual rate of about 7–8% and the Government has a development blueprint for the country to be a regional leader in ICT.

Higher education a priority for Rwanda Development agenda

Rwanda was characterized by ethnic-based violence before and up to 30 years after political independence. Such upheavals resulted in genocide

against the Tutsis in 1994. Post 1994, the government of Rwanda invested in higher education, convinced that it was the vital ingredient for the country to attain peace and stability and promote accelerated economic development. The government envisioned that higher education, postgraduate training and research are the vehicles for attaining its long-term goals of its vision 2020 (articulated in 2000), which aims at transforming the country into a knowledge-based economy to become a middle-income country by 2020. Post-Genocide government prioritized higher education as a transformative agent to enable the country to overcome poverty and avoid social and political crisis and to transform Rwandan citizens into skilled human capital for the socio-economic development of the country.

Rwanda has been participating in global efforts to reduce poverty and promote economic growth under the Millennium Development Goals (MDGs), implemented through its medium-term economic development and poverty reduction strategy papers, PRSP, EDPRSI and EDPRSII. Rwanda is among a handful of African countries that are likely to attain all the MDGs (www.euractiv.com). Actually, only Tunisia and Rwanda (among 10 countries globally) are the only African countries chosen to pilot thematic areas in the post-MDGs and Sustainable Development Goals (SDGs). Among the drivers to attain its development targets, the government aligned its education and research plans and strategies with MDGs, and poverty reduction strategies, PRSP, EDPRS I&II. Rwanda government has been working on building a vibrant higher education system and significant investment in developing higher education being made by both the Government and the private sector, focusing on equitable access to quality higher education. The country works on the premise that a vibrant higher education system is vital to prepare a skilled workforce in the needed quantities, with the required attitudes to ensure the country attains lasting peace and stability and promote accelerated economic development.

Rapid access growth of Rwanda higher education post 1994

In Rwanda higher education means the entire tertiary education (i.e. polytechnic vocational level, other sub-degree levels, as well as university-level education) while higher learning institution (HLIs) refer to all tertiary level institutions (offering diplomas, advanced diplomas and degrees). There are three types of HLIs in Rwanda: public HLIs, government-subsidized HLIs and private HLIs.

Prior to 1994, higher education in Rwanda was not considered a priority even though the first university in Rwanda, the National University of Rwanda (NUR), was established in 1963 just within a year after the country's political independence (NUR together with six other public universities and five tertiary level colleges were merged in 2013 to form the University of Rwanda). Since 1963 until 1994, Rwanda had only four HLIs (of these, two

were universities) which produced just less than 2,000 graduates. Higher education did not act to prevent the extreme poverty as well as social and political crises which culminated into the 1994 genocide. The post 1994 higher education system set out to eradicate illiteracy, promote science and technology, develop critical thinking, and instill positive values in learners.

Since 1994, Rwanda has made significant strides in higher education provision. The number of students in Rwandan HLLs has increased tremendously from below 60 tertiary-level students per 100,000 inhabitants in 1994 to 750 tertiary-level students per 100,000 inhabitants in 2013. The most drastic increase was seen from 2008 whereby enrollment increased from 46,268 students in 2008 (19,828 in public and 26,440 in private higher learning institutions) to 84,448 in 2013 (33,743 in public and 43,717 in private HLLs) with private HLLs enrolling 57% of all the students in the tertiary education sector. Figure 1 shows trends in enrollment expansion by category of HLL.



Figure 1: Trends in student enrollment in Rwanda HLLs by category

Source: NISR, Statistical Year Book

While the number of graduates in 1994 was below 2,000, by 2011 graduation was 58,961 as can be seen in Table 1.

Academic Year	Diploma		Bachelor's Degree		Postgraduates		TOTAL	
	Total	%ge Females	Total	%ge Females	Total	%ge Females	overall Total	%ge Females
2000–2001	200	30.50%	541	28.28%	0	—	741	28.88%
2001–2002	224	43.75%	628	26.27%	0	—	852	30.87%
2002–2003	220	31.82%	609	27.75%	3	33.33%	832	28.85%
2004	325	23.08%	635	31.50%	7	57.14%	967	28.85%
2005	834	50.12%	1,461	30.39%	8	37.50%	2,303	37.56%
2006	542	43.73%	3,270	29.30%	23	21.74%	3,835	31.29%
2007	1,156	56.06%	1,206	28.44%	19	10.53%	2,381	41.71%
2008	1,163	64.92%	4,821	28.67%	163	20.86%	6,147	35.32%
2009	2,095	44.82%	7,682	44.19%	294	25.85%	10,071	43.79%
2010	3,501	39.36%	9,022	45.79%	178	27.53%	12,701	43.76%
2011	4,096	39.50%	13,664	45.76%	371	28.03%	18,131	43.99%
Total	14,356		43,539		1,066		58,961	40.99%

Table 1. Number of awarded qualifications since 2000

Source: Rwanda National Council for Higher Education (NCHE, now known as Higher Education Council) survey (September–October, 2011)

The number of HLLs grew from four (two public, two private) in 1994 to 45 (13 public, 32 private) in 2013. To ensure fit for purpose offerings, the government has put in place a legal regulatory system to ensure compliance with the quality and set standards. HLLs in Rwanda must conform to the requirements of the Rwandan National Qualifications Frameworks (RNQF) and a code of practice for private HLLs. The RNQF measures the level of learning outcomes to be achieved, and the student credits and it has seven levels which correspond to UNESCO International Standards of Classification of Education (ISCED). The RNQF is harmonized with the East African qualifications framework of the Inter University Council of East Africa (IUCEA) to enable for credit transfers and labor mobility among member countries. Both public and private HLLs are scrutinized to ensure that they are delivering to the expected standards of quality education.

Efforts have been undertaken to gender equality in access to higher education in Rwanda. In 2008, female students constituted 32.1% and by 2013 that percentage had grown to 44.08% (34.1% in public HLLs and 53.38% in private HLLs).

The currently being implemented Rwanda Education Sector Education Strategic Plan for 2014–2018 is centered on the following three goals: expanding access to education at all levels; improving quality of education and training; and strengthening the relevance and impact of education in labor market demands. The sector outcomes, specific to higher education are: increased equitable access to affordable, relevant, academically excellent higher education that also delivers quality research output; and strengthened performance in science, technology and innovation. In the past 20 years, enrollment in both public and private higher learning institutions has grown from 3,261 to 87,013 students. Currently, about 60% of the enrolled students are in private HLLs. Female students constitute 32% of the enrollment in public HLLs and 54% in private HLLs.

Low staffing level and research production

The increase in student enrollment did not match with the staffing level both in numbers and by qualifications. From the national statistics, in both public and private HLLs the increase in the number of full-time academic staff between 2011 and 2013 was very small although the increase in student numbers was almost quadratic, especially in private HLLs. In 2011 and 2013, academic staff from private HLLs made up, respectively, 30% and

PUBLIC HLLs					PRIVATE HLLs			
	Male	Female	Total	% total	Male	Female	Total	% total
Other	38	18	56	3%	53	33	86	12%
Bachelor	432	138	570	34%	205	71	276	38%
Master	628	150	778	46%	234	45	279	38%
Doctorate	238	37	275	16%	84	8	92	13%
Total	1336	343	1679		576	157	733	

Table 2. Distribution of academic staff by type of HLLs, qualification and gender

Source: 2013 NCHE Survey of 2011

31% of all the full-time academic staff in all Rwanda HIs. Table 2 shows trends by gender for the year 2011.

Overall, women were 21% of the total (14% in public HIs and 7% in private HIs) in 2011 and women with doctoral degrees made up 2% of the total number of staff while men made 13%.

Improved access while maintaining quality is assured by existence of an ICT in Education Masterplan which will ensure internet access by all HIs, and the associated infrastructure and this coupled with the government policy that by 2017 all HIs will offer 50% of all their programs via Electronic Open and Distance Learning (eODL) mode and that at least 50% of students will study by eODL. A number of initiatives are being undertaken to build capacity in ICT.

Creation of the University of Rwanda

In order to respond to the increasing demand for higher education and to ensure provision of quality and relevant education as well as improve efficiency in the sector, through rationalization of resources, the Government established the University of Rwanda, in 2013, by initially merging seven public HIs. About a year later, five more institutions were added. This kind of response is unique. In many countries in the world, response to increasing in demand is proliferation of institutions, with the potential risk of compromising on standards. Currently, the University of Rwanda comprises six colleges, offering both postgraduate and undergraduate programs in disciplines ranging from humanities and social sciences through business and economics, to science, technology, agriculture and medicine. It has about 32,000 students and 1,480 academic staff on its 14 campuses spread throughout the country. The leadership of the new institution has had to steer the institution through challenges of building a research culture for increasing research productivity, enhancing quality in teaching and learning. The leadership also has to address fears and resistance to change by some staff and students, of moving from a monolithic institutional operating environment to a multi-college, multi-campus. For this, number of policies and procedures been developed to ensure coordinated implementation of the various strategies across the different colleges.

The strategy for increasing research productivity is built on the following pillars: capacity building for staff; availability of infrastructure; and enabling frameworks. Specific objectives of the strategy include: increasing the proportion of staff with PhDs from the current 20% to over 55% in the next 10 years; increasing the proportion of enrolled doctoral students from 5% to 15% over the same period; improving the publications output per staff member, as well as improved capacity to write successful grants proposals. These are to be achieved through both performance management measures as well as an incentive scheme to recognize and reward attainment of set targets.

By 2013, Rwanda research involvement, research funding and research output was very low. Actually, the current situation is such that private universities in Rwanda are predominantly teaching-led, while the newly established University of Rwanda has been created as a research intensive university. The government has recently indicated it will be investing 1.5% of GDP and this will make a huge difference.

Rwanda is spearheading implementation of the post 2015 agenda and the SDGs. The priority areas of SDGs chosen by Rwanda are: sustainable energy, forestry management, ending poverty and hunger, and sustainable tourism. The country requires a critical mass of highly skilled scientists, engineers and social scientists for it to attain targets of its priority SDGs. A number of centers of excellence have been established and the government is working on investing heavily in more centers of excellence in the areas where Rwanda has existing strengths: agricultural land management, energy, ICT, mining, statistics, transport and logistics, and science, technology, engineering and mathematics.

Professor Verdiana Grace Masanja is a director of research and postgraduate studies as well as a full professor of mathematics at the University of Rwanda. Her doctorate degree, from the Technical University of Berlin in 1986, in fluid dynamics is titled "A Numerical Study of a Reiner – Rivlin Fluid in an Axi-Symmetrical Circular Pipe". She was an academic staff of the University of Dar es Salaam, Tanzania, from 1976 to December 2010. Her research work in mathematics is on modelling ocean dynamics in shallow waters, modelling water borne and air borne transport of particles (dust or sediment), modelling pollution transport in Lakes, modelling food security indicators and food balance sheets, and modelling HIV/AIDS control methods. She supervises PhD and MSc students.

Professor Nelson Ijumba is the deputy vice chancellor responsible for academic affairs and research at the University of Rwanda (UR), and also an honorary professor of electrical engineering at the University of KwaZulu-Natal (UKZN), South Africa. His main area of specialization is in high voltage systems. He graduated from the University of Dar Es Salaam (Tanzania), with a first class honors degree in electrical engineering, and obtained his master's and doctoral degrees from the Universities of Salford and Strathclyde (UK), respectively. Professionally, he is a registered professional engineer with the Engineering Council of South Africa (ECSA) and a chartered engineer of the UK Engineering Council. He has over 30 years of experience in teaching, research, consulting and academic leadership. His research interests are in the areas of power and energy systems, impact of technologies on sustainable development and translation of research outputs into socially relevant innovative products. He has published widely and made presentations at international and local conferences.

