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HONG KONG  
UNIVERSITY OF  
SCIENCE &  
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May 26, 2003

Ms Miranda Hon  
Clerk, Public Accounts Committee  
Legislative Council  
Legislative Council Building  
8 Jackson Road, Central  
Hong Kong

Dear Ms Hon,

**The Director of Audit's Report on the  
results of value for money audits (Report No. 40)**

**Chapter 10: University Grants Committee funded institutions –  
Staff remuneration packages and stipends**

Thank you very much for your letter on the above subject addressed to Prof Paul Chu dated May 19, 2003. As Prof Chu is presently out of town, he has asked me to reply to you on his behalf.

HUCOM is most happy to provide the additional information requested by the Public Accounts Committee (PAC). For the information proving that the universities in the UK have lost many of their talents in the last decade because of their uncompetitive pay for academic staff, PAC Members may wish to refer to the following 3 reports:

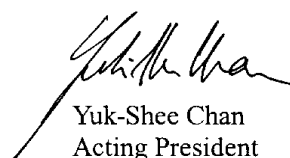
- (a) The National Committee of Inquiry into Higher Education Summary Report (the Dearing Report 1997);
- (b) Independent Review of Higher Education Pay and Conditions, Report of a Committee chaired by Sir Michael Bett (The Bett Report 1999); and
- (c) The Commonwealth Higher Education Management Service Report 2001.

Excerpts of (a) and (b) are attached as Appendices I and II of this letter.

As for information showing that the universities in Hong Kong are able to attract talents from the international academic community, a collection of evidence provided by the eight HUCOM Member Institutions is attached as Appendices III to X. The HUCOM Secretariat has not made any edition to it because of time constraint.

I hope the above information will be useful for the Committee.

Sincerely yours,

  
Yuk-Shee Chan  
Acting President

c.c. Mr Peter Cheung, Secretary-General, University Grants Committee  
HUCOM Members (w/o enclosures)

**\*Note by Clerk, PAC:  
Appendices I and II not  
attached.**

### Response of CityU to an enquiry from the Public Accounts Committee

The following information offers evidence to show that CityU has succeeded in attracting academic staff of high calibre:

CityU currently has 57 Chair Professors, 13 of whom are academicians (Appendix 1) and 7 are IEEE Fellows (Appendix 2). A Fields Medalist and an IEEE Fellow had retired from the University.

Of the 57 Chair Professors, 19 (33%) possess qualifications from USA Top Tier doctoral institutions and 3 (5%) from Canada Top 3 universities. 7 (12%) of them held prestigious appointments in USA Top Tier doctoral institutions prior to joining CityU, 1 (2%) from a Canada Top 3 university, 6 (10%) in USA other tiers doctoral institutions, 4 (7%) in UK universities, and 15 (26%) in other universities over the world (excluding Hong Kong). Altogether, 16 patents are obtained by 5 Chair Professors; 41 patent applications from 7 Chair Professors are pending approval. Details of their achievements are provided at Appendix 3 for the confidential information of the PAC.

The Essential Science Indicators (ESI) of the Institute for Scientific Information (ISI) show that 6 of these Chair Professors are listed among the top 1% scientists worldwide in the fields of engineering, materials science and mathematics. Another indicator of the very high calibre of the University's academic staff is the ranking of journals in which their papers are published. Some of them have published papers in top ranking prestigious journals such as *Nature* (with a high impact factor of 27.955), *Science* (with a high impact factor of 23.329), etc.

Of the 116 academic staff of all ranks recruited from overseas in the past 5 years (52% of all recruits of academic staff), 33 (28 %) possess qualifications from USA Top Tier doctoral institutions and 8 (7%) from Canada Top 3 universities. 15 (13%) of them held prestigious appointments in USA Top Tier doctoral institutions prior to joining CityU, 25 (21%) in USA other tiers doctoral/other institutions, 10 (9%) in UK universities, and 43 (37%) in other universities over the world (excluding Hong Kong).

Our research achievements, as reported in the RGC Reports, are well recognized:

<u>Year</u>	<u>No. of refereed publications</u>	<u>Average no per academic per year</u>
1998-99	1512	1.6
1999-00	1762	2.0
2000-01	1997	2.1

Our academic staff gained many awards and honours. Some of the outstanding ones are:

- Member of Chinese Academy of Sciences
- IEEE Fellowship
- Croucher Foundation Senior Research Fellowship
- Humboldt Research Award
- Second Prize of the national Natural Science Award 2002 (China)
- Award of Excellence, American Fisheries Society (Physiology Section)

- Pittsburgh-Cleveland Catalysis Society Award in Catalysis
- US NSF Presidential Young Investigator Award
- Centenary Award of Australia
- Misumi Award, Japanese Group Dynamics Association
- IT Excellence Award 2002
- Invitation to be the first Asian to deliver the Alexander Lectures (one of the most distinguished lecture series on English Literature in North America) at the University of Toronto in 2005.

***\*Note by Clerk, PAC: Appendices 1, 2 and 3 not attached.***

## HONG KONG BAPTIST UNIVERSITY

### Response to an enquiry from the Public Account Committee

In respect of the Hong Kong Baptist University, all academic posts are internationally advertised in order to attract the best talent to join the higher education sector in Hong Kong. In the past ten years from 1993 to 2003, our University has recruited a total number of 133 academic staff from overseas and 70 of them (representing 53%) are from North America.

We would like to emphasize that it has not been easy for the University and the HK higher education sector as a whole in attracting overseas talent. Our experience in the past ten years is that overseas candidates are usually very concerned about the following factors in considering a move to Hong Kong:

- (a) congested and noisy living environment, pollution and small apartments;
- (b) high housing costs and high living standards;
- (c) education for their children and the high education costs in international schools with the need to arrange for debentures, etc.;
- (d) adaptation for their spouse and children;
- (e) research environment, facility and funding in Hong Kong; and
- (f) tax implications to Hong Kong and U. S. A. (or other overseas countries)

Due to health and adaptation problems, we have lost quite a number of senior academic staff (including a Dean whom we have great difficulty in recruiting) who found it necessary to return to their overseas countries after a year or shorter than one year and the University had to repeat the entire recruitment process.

In our experience of recruiting two Deans from the United States in the recent ten years, we could hardly offer a salary higher than their salary in the States; one of them was from Northwestern University, and the other from Colorado State University. Our most recent experience with one of the candidates from the University of Minnesota is that his salary is above our Professorial average.

Of the academic staff recruited from overseas, about half of them possess academic qualifications from USA Category I Institutions (Doctoral Universities), such as Harvard and Stanford, as well as reputable universities in U. K, such as Cambridge and Oxford; and in Canada, such as University of British Columbia and University of Toronto. Moreover, most of these academic staff have worked in USA Category I Institutions before coming to join the University.

In the past two years, the University has experienced more difficulties in recruiting academics from overseas because of the reduction in total remuneration

package, namely the abolition of education allowance and reduction in leave. The decline rate has risen from 10% in 2000/01 to 15% in 2001/02. A number of candidates have declined our offer because of the marginal comparability of our pay package with theirs in their own countries. To give some examples, some of these candidates were working at the following universities at the time of our offer of appointment:

University of Texas at Austin

Ohio State University

University of Illinois at Chicago

Swiss Federal Institute for Environmental Science and Technology, Switzerland

John Hopkins University

University of North Carolina at Church Hill

University of Kansas

University of Wales, Cardiff

Personnel Office

30 May 2003

Reply to LegCo from Lingnan University

Tertiary education institutions in Hong Kong must be able to maintain and enhance their academic standards and international status in the intensely competitive global higher education field. There are many factors contributing to the successful achievement of this goal, including a favorable research and teaching environment, good support facilities and quality staff, etc. In this connection, salaries and benefits provided to academics in Hong Kong must be able to attract and retain quality staff from both overseas and local sources. For bright appointees from overseas, the salaries and benefits must be attractive enough to facilitate their relocation to Hong Kong.

In this respect, compared to the salaries and benefits of academics at top universities in the US, which is the main source of overseas academic appointees to Hong Kong, local academic salaries are actually lower. In any case, while universities in Hong Kong do not have to attract academic appointees only from the US, academic salaries must match those offered in the US, so that we are able to compete internationally with American universities.

Despite the relatively more limited research opportunities at Lingnan in view of heavier teaching loads, less research funding and a small number of research courses/students, Lingnan University has been able to attract quality staff from overseas, averaging at around 50% of total academic recruits in recent years. For an academic manpower of around 140 in total, this healthy influx has made significant contribution to the enhancement of our academic staff profile. Currently, the number of academics from overseas accounts for more than 40% of the total academic staff at Lingnan. These staff come from countries like the US, UK, Australia, Canada, Singapore, Norway, Austria and Croatia.

Lingnan University has been able to attract top academic appointees from overseas. Many of them are internationally recognised prominent academics in their field and were already full professors and/or heads of departments before they joined Lingnan. Some examples of their former appointments include: Professor of Comparative Literature and of East Asian Languages & Culture at Indiana University, Professor of Chinese at the University of Wisconsin at Madison, Professor of Chinese Literature at the University of Hawaii, Chair of British Civilization Studies at the University of Oslo, Australian Research Council Senior Fellow at the University of Technology Sydney, Professor of Organizational Behavior at Simon Fraser University, Professor of Accounting at the University of California Riverside and Professor of Human Geography at the University of Nottingham. Lingnan University not only attracts senior academics from overseas, but also manages to attract promising academics who are keen on establishing a strong base in their research areas, including a former Reader in Economics at a UK university and a number of Associate Professors and Senior Lecturers from renowned overseas universities.

The above information illustrates that Lingnan University is able to attract quality academics from major academic centres all over the world. It also shows, among other things, the strength of the pay package at the University.

### **Response of CUHK to an enquiry from the Public Account Committee (PAC)**

The PAC asked the institutions to provide proof that the good remuneration packages offered by the institutions in Hong Kong have helped attract high-calibre scholars to Hong Kong.

CUHK would like to provide the following in response:-

- (a) With the present remuneration package, the University has been able to recruit academics of high calibre. Take example of 2001-02, the University recruited 62 academics, out of which 47 were recruited from overseas (75%).

Of these 47 appointees, more than half (25) of them possess qualifications obtained from USA Category I institutions (doctoral institutions, e.g. UCLA, Harvard, Stanford). Many of them have ample experience and have served in prestigious institutions before joining the University. For example, one-third (15) of the 47 appointees held appointments in USA Category I institutions before coming to Hong Kong, and some others were previously employed by USA Category IIA institutions (comprehensive institutions) and UK universities, with the rest from other countries over the world. We are even able to attract distinguished scholars who are Nobel Laureates and Fields Medallist, to join the University.

It is also worthy to note that a number of the new recruits who possess both great academic credentials and valuable industrial experience were recruited from the industry, viz. established laboratories like the Bell Laboratory.

- (b) The University has been able to maintain a productive faculty. It may be noted from the RGC Report for 1998-2001 that our academic staff had a good record of academic output in refereed academic venues.
- (c) The quality of our academic staff members is also well testified by recognition given to them by their professions and the community. These include international awards, election to presidency and senior fellowship of regional/international professional organizations and honours from the community (including the international community) for outstanding achievements. To cite a few example, Professor C.N. Yang, Professor-at-Large of our University, was awarded the Onsager Prize and the King Faisal International Prize for Science; Professors Henry Wong and Thomas Mak of the Chemistry Department were elected Members of the Chinese Academy of Science; Professor Fan Jianqing of the Statistics Department received the President's Award of the Committee of Presidents of Statistical Societies and was ranked top 6 highly-cited in mathematical sciences in the world by *Science Watch*; Professor Wong Wing Shing of the Information Engineering Department was elected Fellow of the Institute of Electronic and Electrical Engineers (IEEE); Professor Dennis Lam and Professor Dennis Lo of the Faculty of Medicine were respectively elected one of the 100 Global Leaders for Tomorrow and the 2001 Outstanding Young Persons of the World, etc. Many of our staff are invited to sit in Government Committees/Boards to contribute their expertise and experience.

...../2

- (d) Our faculties also contribute to the well-being of people through their inventions and discoveries. There are 57 issued patents obtained by 29 of our academic staff.
- (e) The University did experience difficulty in recruiting senior scholars, especially senior professors, for being unable to offer competitive remuneration that matches their high academic standing. For example, in the past few years, we failed to recruit two professors mainly for salary reason. The University has to make extra efforts in four professorial appointment cases in order to attract them to join the University. In the sample year of 2001-2, eight offers of appointment below the professorial level were not accepted by the prospective candidates, and some of which may be attributed to salary offers.
- (f) The University has also lost very good academics to overseas institutions because higher salaries were offered. We had a case of losing a Professor to the University of California for a Chair position; another case of our Professor joining Princeton University with a much higher salary. There is also a recent case that an institution in China is able to offer to a Professor of the University a salary closely doubled his present one.



**Hong Kong Institute of Education**  
**Information for the Public Accounts Committee**

The Hong Kong Institute of Education, unlike the other local institutions, does not offer university salary scales, although about 60% of our programmes are degree or postgraduate level. Since our salary scales and levels are relatively less favourable, we find it difficult to recruit local staff especially local senior staff. Of the senior staff recruited during 2002-03, only 11% of them are from local institutions.

Over the past years, we have had difficulties in recruiting senior academics who are at the level of Reader and Chair Professor. Apart from the Deanship, the highest academic rank in our Institute is Principal Lecturer and the applicable scale runs from MPS Point 43 (\$71,800) to Point 49 (\$88,425), which is simply not attractive to incumbents who are holding University Senior Lectureship/Readership/Associate Professorship with the University salary scale which runs from \$72,020 to \$99,815 and Chair Professors whose average monthly salary is \$127,155.

20 May 2003

Response of The Hong Kong Polytechnic University to an enquiry from the Public Accounts Committee

We recruit those staff who have exceeded a certain threshold in terms of academic qualifications and working experience (both academic and professional), and those who would fit our mission best. If the candidates' qualifications and experience are similar, we will naturally recruit a local or (overseas-educated) Mainland candidate rather than a foreign one. In all recruitment exercises for senior academic staff, the University will seek the views of several external assessors, mostly from overseas, in order to ensure that international benchmarking standards are met. For the majority of cases, the external assessors have indicated that the person to be recruited were eligible for a similar position in the most prestigious universities in the world.

Since its inception, PolyU has pioneered the provision of application-oriented education in Hong Kong, and has groomed more than 200,000 young talents for the community. Surveys in recent years have consistently found our graduates to be of the highest practical value to employers. Such positive recognition from the community is, to a great extent, attributed to the high-calibre academic staff members that we are able to recruit and retain.

During the last 5 years, we have recruited 155 academic staff members from Assistant Professor to Chair Professor, of whom 87 were from countries other than Greater China. Among these foreign recruits, about 24% were from the U.K., 27% from the U.S.A., 18% from Canada, 17% Australia, 6% from Europe and 8% from other countries. Those recruited came from top universities like Cambridge University, Edinburgh University, Imperial College, Princeton University, New York University, Pennsylvania University, University of Michigan, Washington University, University of British Columbia, McGill University, University of Houston, University of New South Wales and University of Melbourne. Apart from being highly qualified, some of them have attained internationally renowned honours. For example, our Head of the School of Hotel and Tourism Management, who joined us in July 2000, is a recipient of:

- The John Wiley & Sons Award from International Council on Hotel, Restaurant and Institutional Education (CHRIE) for contribution to scholarship and research in tourism/hospitality, and
- Martin Oppermann Memorial Award from International Society of Travel & Tourism Educators (ISTTE) for lifetime contribution to tourism education.

Many of these staff members would not have come to Hong Kong if relatively high salaries were not offered.

During the last five years, there were more than 10 candidates who declined our offer of appointment primarily because the package we offered did not meet their expectations. In addition, we have not been able to fill quite a number of Chair Professorships (for example, in the disciplines of Computing, Chinese and Bilingual Studies, Shipping and Transport Logistics, Nursing, Optometry and Radiography. The Chair in the School of Hotel and Tourism Management was filled only after a long search.) because no applications from suitably qualified candidates have been received

over a long period of time despite our repeated international advertisements. For Chair Professors/ Professors joining us in the past five years, we have already lost six of them. In addition, four Chair Professors/Professors will be leaving us this summer. This is indicative of the fact that there is a considerable level of mobility among senior academic staff members.

## International Competition for Academic Staff *The HKUST Story*

### Background

HKUST opened to students on 2 October 1991, but recruiting of teaching staff was well under way in 1989. With a mandate to build a high quality university specializing in subjects where competition for the best academics was particularly keen, recruiting sufficient faculty to staff a university planned to reach 7,000 students in barely five years was a major challenge. The prosperity and strong economic growth of Hong Kong in the early 1990's was a major factor in making HKUST competitive in the international market for academic talent. It made possible terms of service that were, at the time, sufficiently attractive to bring to Hong Kong some of the top scholars in the world at a time when the uncertainties of the 1997 transition had otherwise spurred significant emigration of professional talent.

The question has been raised as to what evidence exists that this recruiting exercise was as successful as claimed. To answer that, we propose to look at several major outcomes. First, we consider a few examples of the senior leadership that HKUST was able to attract. Then, we present specific examples of the quality of the academic staff as measured by their achievements since joining HKUST. This is followed by indicators of our overall success in competing for the top PhD graduates against international competition.

Much of this evidence relies on research accomplishment, since this is the area of academic endeavor that is most clearly benchmarked internationally. However, we also present evidence that the excellence of the faculty has also translated into educational program quality and positive student outcomes.

Finally, we will note some examples of the emerging problems in recruiting and retaining quality faculty that are emerging in response to the deterioration of our competitive position as a result of salary stagnation and reduction in recent years.

### Quality Leadership

An important early objective that remains a high priority is the recruitment of highly regarded academics to serve as leaders of our Schools and Departments. Along with attractive terms of service, this kind of leadership is essential to attracting the best-qualified younger faculty. A few key examples of HKUST's success in this arena of international competition are the following.

Professor Leroy Chang. Recruited as Dean of Science and later appointed as Vice-President for Academic Affairs, Professor Chang was among the top material scientists in the United States. He was a member of the U.S. National Academy of Science, the U.S. National Academy of Engineering, Academia

Sinica in Taiwan, and an overseas member of the Chinese Academy of Science. His status as a four-fold academician made him one of the most respected scientists in the world.

Professor Yuk-Shee Chan. Professor Chan, the founding Dean of the School of Business and Management at HKUST, held the Justin Dart Professorship in Finance at the University of Southern California. He is currently the Vice-President for Academic Affairs.

Professor Ting Pang-Hsin. Professor Ting accepted appointment as Dean of Humanities and Social Science at HKUST while holding the prestigious Agassiz Chair in Chinese Linguistics at the University of California, Berkeley.

Professor Ping Ko. Professor Ko was already well known in Hong Kong as Chairman of the RGC when he came to HKUST from the University of California, Berkeley, where he had been one of the youngest staff ever promoted to the rank of full Professor. He served as Head of the Department of Electrical and Electronic Engineering before being appointed Dean of Engineering.

## **Proven Performance**

There are a variety of indicators of the quality of the academic staff that was recruited at HKUST, including individual and collective achievements. A small sampling of individual achievements in the past few years is given below.

### Election to Prestigious Professional Bodies

Neuroscientist Prof Nancy Y Ip, Associate Dean of Science, Head of the Department of Biochemistry and Director of the Biotechnology Research Institute, has been elected an Academician of the Chinese Academy of Sciences, the most prestigious academic institution and research center for the sciences and high technology in China.

Four HKUST faculty members in the Department of Electrical and Electronic Engineering have been elected fellows of the prestigious Institute of Electrical and Electronics Engineers (IEEE). IEEE Fellows are internationally recognized as leading authorities in their research areas. Associate Professor Bertram E Shi was one of the youngest researchers to be elected an IEEE Fellow in recognition of his contributions to the analysis, implementation and application of cellular neural networks. Professor Kei May Lau was elected an IEEE fellow for her contributions to III-V compound semiconductor heterostructure materials and devices. Professor Khaled Ben Letaief was recognized for his contributions to the analysis, design, and performance evaluation of high-speed wireless communication systems. Professor Hoi-Sing Kwok was honored for his pioneering research into liquid display technology.

To honor his significant research contributions in the field of materials science and engineering, Professor Tongyi Zhang of the Department of Mechanical Engineering was elected a fellow of the American Materials Society, ASM International.

Professor Tai-Kai Ng of the Department of Physics, an expert in condensed matter physics, has been elected a Fellow of the prestigious American Physical Society (APS). In his citation, Dr Ng was praised "for his work on the Coulomb effects in a quantum dot, leading to the prediction of conductance enhancement due to the Kondo resonance."

### Honors and Awards

Professor Ping K Ko (Electrical and Electronic Engineering) was awarded the 2002 IEEE Solid-State Circuits Award. He shared the honor with Prof Chenming Hu of UC Berkeley.

Professor Tongxi Yu (Mechanical Engineering) gained a China Higher Education Science and Technology Award — first Class.

Prof Ka Ming Ng, Head of the Department of Chemical Engineering, has won the prestigious Excellence in Process Development Research Award of the American Institute of Chemical Engineers (AIChE). The award recognizes individuals who have made significant technical contributions to advances in industrial process development.

In recognition of their outstanding research achievements, Prof Randy Poon (Biochemistry), Prof Tai-Kai Ng (Physics), Prof Mingjie Zhang (Biochemistry) and Prof Tongyi Zhang (Mechanical Engineering) were among ten Hong Kong researchers selected as Croucher Senior Research Fellows in 2002 and 2003.

Prof Ping Cheng of the Mechanical Engineering Department will be the recipient of the 2003 AIAA Thermophysics Award given by the American Institute of Aeronautics and Astronautics (AIAA) in recognition of his seminal work in thermophysics.

Prof Jing-Song Huang, Professor of Mathematics, was conferred the 2002 State Natural Science Award (SNSA), second class, for his fundamental contributions to research on group representation theory and harmonic analysis.

Prof Wilson Tang of the Department of Civil Engineering has been elected to the US Offshore Energy Center's Hall of Fame as a Technology Pioneer in Reliability-Based Design of Marine Structures.

Dr Kevin A W Lee, Associate Professor of Biology, has become the first researcher in Hong Kong and the Chinese Mainland to receive funding support from the prestigious UK-based Association for International Cancer Research (AICR). AICR will provide HKD \$1 million over two years for Dr Lee's

research on an abnormal protein (EWS) that causes a group of rare and lethal cancers.

Associate Professor Kin-Man Lee of Civil Engineering and his research team were presented the Thomas A Middlebrooks Award for the paper "Effects of placement method on geotechnical behavior of hydraulic fill sands", published in the Journal of Geotechnical and Geoenvironmental Engineering in October 1999. The annual award was established by the prestigious American Society of Civil Engineers (ASCE) in 1955 to encourage advanced geotechnical research. Dr Lee's team is only one of two non-US research groups to have received the award in its 45-year history.

Assistant Professor Wenxiong Wang of Biology was awarded the prestigious "Biwako Prize for Ecology" in 2003 for his significant contribution to environmental studies in the field of ecology.

The breadth and depth of the HKUST faculty's quality can only be partially presented by citing examples of individual recognition. There are, however, a number of indications of collective achievement:

The Accounting faculty at HKUST ranked 1st in the world in research articles published in the top five academic journals in 2001, the second year in a row it has gained this prestigious place. HKUST is one of only four universities to consistently rank in the top 10 in the last four years, together with Columbia, Pennsylvania, and Stanford.

The Advanced Manufacturing Institute (AMI) of the Hong Kong University of Science and Technology (HKUST) has received a major international award, the University LEAD Award, from the Society of Manufacturing Engineers and its Computer and Automated Systems Association (CASA/SME) in recognition of its achievements in research and education in the area of enterprise-wide integrated manufacturing technology.

HKUST was ranked the top university in finance research among Asia-Pacific universities, according to a study published in the widely quoted Pacific-Basin Finance Journal (June 2001). Professor Kalok Chan of the Department of Finance was named the top author in terms of research productivity in the whole region.

*China Journal*, *China Quarterly*, and the *Journal of Asian Studies* are the journals in the China field with the highest Impact Factor in the Journal Citation Report. In term of publication in these journals, HKUST is among the top five universities in the world, along with such world-class universities as Harvard and Stanford.

The ability to do cutting-edge research is another indication of the quality of HKUST scholars. Research achievements in the early years of HKUST include:

In 1994, Prof George K L Wong, together with Mainland researcher Prof Chuangtian Chen, set a new world record for the shortest wavelength of deep

ultraviolet laser radiation (184.7 nanometer) generated from a non-linear optical crystal. Their work has pushed forward basic research and has diverse potential uses ranging from medical applications to microelectronic fabrication.

In 1993, Prof Jay-Chung Chen and his research team enabled HKUST to win the largest government contract awarded to a tertiary institution in Hong Kong to provide the new airport with the technology to monitor wind patterns. Working together with US scientists, the result was the Operational Windshear Warning System, a pioneering development for Hong Kong that can be exported round the world.

Two recent examples have gained international attention:

Hong Kong University of Science and Technology physicists have discovered that, below 15°K, 4-Angstrom single-walled carbon nanotubes exhibit superconductivity. In recognition of this major breakthrough, *Science*, the world's top science journal, published the research findings on 29 June 2001, and framed it as one of the most important findings published in this particular issue. This research followed the success of HKUST scientists in fabricating the smallest single-walled carbon nanotube in the world.

Dr Chun Liang, Assistant Professor of Biochemistry, has identified a protein that plays an essential role in the initiation of DNA replication. The findings were published in the 28 June 2002 issue of *Cell*, an academic journal in modern biology renowned for its publication of high-impact, cutting-edge biological research.

Finally, there is statistical evidence to demonstrate the quality that resulted from recruitment of academic staff. In the international competition, the graduates of the world's top universities are in greatest demand. Fully two-thirds of HKUST's current faculty earned their PhDs from the select list of institutions listed in Attachment 1. If we consider an even more selective group: the great private universities represented by the "Ivy League" in the US, supplemented by Stanford, MIT, and CalTech, plus UC-Berkeley, UC-San Diego, UCLA, Oxford and Cambridge as a sample of the top public institutions, then we find that they account for the PhDs of about 40% of the HKUST faculty.

More extensive information on HKUST faculty members and their academic background and experiences can be found in the *HKUST Faculty Profiles 2002-03*.

### **Impact on Academic Programs**

Benchmarking research accomplishment is natural, since the universal dissemination of research results and the tradition of peer review of publications guarantees that quality judgments are regularly made on the work being done. There is less opportunity for this kind of international comparison for academic programs; however, HKUST has taken advantage of the opportunities that exist. For example:

The School of Business and Management voluntarily sought, and became the first university in Asia to receive, accreditation by the AACSB, the



international accreditation organization based in the U.S. The School's Accounting program also received separate AACSB recognition. Subsequently, the School was also accredited by the European accreditation body (EQUIS) and remains the only program in Asia with both AACSB and EQUIS accreditation.

Along with other Engineering programs in Hong Kong, HKUST benefits from international recognition through the participation of the HKIE, the local professional accreditation body, in the Washington Accord—an international agreement for mutual recognition of qualifications.

The HKUST MBA program continues to be ranked the first in Asia in the widely respected rankings published by the *Financial Times*. The quality of the faculty has been a significant factor in achieving this status.

Finally, we have benchmarked the performance of our students against international standards. A study of HKUST students who have spent a semester on exchange at some of the best universities in the U.S. shows that they are able to perform as well or better than students of those institutions with comparable prior academic results.

### **Evidence of Deterioration**

Fortunately, the majority of those recruited in the early years of HKUST's development (despite some predictions to the contrary) have remained with us and form the backbone of our current faculty. However, there is now a noticeable deterioration in our success rate in recruiting. Typical examples are recent cases where we were competing for a PhD in Mathematics with Georgia Tech, and a PhD in Electrical and Electronic Engineering with Princeton, and lost out both because we could not quite match their salary offers and because of the much lower cost of living in Atlanta and New Jersey. In the most highly competitive fields in business and engineering, our dwindling competitiveness is reflected in the higher-than-desired appointment of visiting faculty due to our inability to secure permanent staff of the quality we want.

The recruitment situation is being exacerbated by the loss of a number of key faculty to overseas institutions who can offer better terms. It was disheartening to have successfully attracted two first-rate social scientists from Harvard only to lose them to Stanford recently. This pattern is being repeated in a number of areas, notably in business fields.

May 2003

California Institute of Technology  
Columbia University  
Harvard University  
Kyoto University  
Massachusetts Institute of Technology  
McGill University  
Ohio State University  
Princeton University  
Purdue University  
Stanford University  
University of British Columbia  
University of California, Berkeley  
University of California, Los Angeles  
University of California, San Diego  
University of Chicago  
University of Illinois, Urbana-Champaign  
University of London  
University of Michigan  
University of Minnesota  
University of Oxford  
University of Southern California  
University of Toronto  
University of Washington  
University of Wisconsin, Madison  
Yale University

**THE UNIVERSITY OF HONG KONG**

**Recruitment exercises from July 1, 2002 to May 14, 2003**

Exercise	Level of post	No. of applications					Total	No. of shortlisted applications	Results
		By region							
		North America	Europe	Australia/ New Zealand	HK	Others			
1	Assistant Professor	22	3	2	30	14	71	3	2 appointments made (North America and HK)
2	Assistant Professor	0	0	0	3	1	4	1	1 appointment made (HK)
3	Assistant Professor	11	9	3	3	2	28	0	No appointment made
4	Assistant Lecturer	0	1	0	1	0	2	0	No appointment made
5	Assistant Professor	0	0	0	1	0	1	0	No appointment made
6	Assistant Lecturer	0	0	0	4	6	10	2	2 appointments made (HK)
7	Assistant Professor	39	32	13	24	35	143	1	1 appointment made (Europe)
8	Professor/Associate Professor	22	5	5	23	3	58	3	No appointment made
9	Assistant Professor	38	9	5	10	17	79	4	1 appointment made (HK)
10	Chair Professor	3	1	0	4	1	9	1	1 appointment made (HK)
11	Associate/Assistant Professor	87	13	5	25	28	158	1	1 appointment made (North America)
12	Assistant Professor	5	2	4	7	7	25	3	1 appointment made (HK)
13	Assistant Lecturer	0	0	0	1	4	5	0	No appointment made
14	Assistant Professor	0	0	2	2	0	4	0	No appointment made
15	Assistant Professor	2	1	2	7	1	13	3	1 appointment made (HK)
16	Assistant Professor	34	3	2	10	7	56	4	1 appointment made (North America)
17	Associate Professor	8	0	0	5	1	14	4	1 appointment made (HK)

N.B. Details of ongoing exercises are not tabulated above.

Human Resource Section, Registry  
May 15, 2003

Academic staff of The University of Hong Kong are recruited through rigorous selection procedures comprising internal peer-reviews and external assessments conducted by international and prominent experts in the relevant fields (see table of summary statistics attached).

As one indicator of the very high caliber of the University's faculty, the Essential Science Indicators (ESI) which is an analytical tool designed by the Institute for Scientific Information (ISI)\* to analyse the research performance of scientists, institutions, countries, shows that of the University's 105 academic leaders (ie Chair Professors and Readers) in the disciplines tracked by the ESI, 16 of them (15%) are listed among **the top 1% scientists worldwide**. The ranking of the scientists is based on the impact of their published works, as evidenced by the number of times their papers published in journals accepted by the ISI have been cited by other researchers.

The 16 scientists whose levels of attainments put them in the "top league" are researchers in the fields of civil engineering, chemistry, botany, medicine, surgery, and statistics and actuarial science. Their names can be provided on a confidential basis to the Public Accounts Committee, if requested. The count was taken as at January 2003.

All our academic staff have shown great productivity in research. This can be seen from the total volume of refereed research outputs produced by the University. In 1999-2000, HKU produced 3,813 items of refereed publications, in 2000-1, 3,923 items; and in 2001-2, 3,925 items. This translates to 3.6 items on average per academic staff in 1999-2000; 4.6 items and 4.6 items for 2000-1 and 2001-2 respectively. The figures quoted above are taken from the RGC's Annual Reports. This volume of output is comparable with that generated by many world class research universities.

Another measure of "academic excellence" commonly adopted by the international academic community is the extent of the "esteem" in which the researchers are held in the eyes of their peers. Esteem is usually reflected in, amongst other things, the level of research awards, prizes and honours conferred; and the responsible positions held by academics on editorial boards of journals and books. We are very sure that the number of our academic colleagues receiving such awards and honours is not less (if not more) than their counterparts in many first class international universities. More details on these aspects can be provided if necessary.

\* The ISI is a private company that maintains the most comprehensive multidisciplinary bibliographic database on journals in the world. It indexes more than 8,500 periodicals, as well as research and non-research journals, such as conference proceedings, but it does not index books or artistic productions. Numerous researchers have conducted bibliometric studies on research performance based on the ISI citation indices as instruments for assessment. Apart from countries in the West, the universities in the Mainland use ISI as an indicator of performance.