Anti-Aging Drug Discovery 開發抗老年病新藥
New Biotech Unit to Develop Anti-Aging Drugs
開發抗老年病新藥

The University has established a new biotechnology company, named TA Therapeutics Limited, which will conduct research and develop drugs to treat age-related diseases.

Continuing a long tradition of collaboration between HKUST and the public and private sectors, the company will be jointly owned by the University’s Biotechnology Research Corporation — with funding support from The Hong Kong Jockey Club — and Geron Corporation, one of the world’s leading biopharmaceutical companies.

TA Therapeutics will conduct research to develop what are known as telomerase activator drugs, with particular focus on sources deriving from traditional Chinese medicine (TCM).

"Such drugs have the potential to restore the regenerative and functional capacity of cells, helping fight age-related and neurodegenerative diseases like Parkinson’s, osteoporosis, cirrhosis and cancer," said Prof Nancy Ip, Director of HKUST’s Biotechnology Research Institute and Head of the Department of Biochemistry.

The Hong Kong Jockey Club, a long-time supporter of the University, made a donation of HK$175 million to HKUST at a ceremony held on 2 March. A major part of this sum will be applied to establishing TA Therapeutics in Hong Kong, providing a significant boost to the local biotech sector.

Speaking at the donation ceremony, President Paul Chu said: "This collaboration represents a successful partnership between academia and industry, working together for the benefit of global healthcare. HKUST is most grateful to the Club for its generous support."

With the University providing its technical know-how, particularly in drug discovery, and NASDAQ-listed Geron contributing its expertise in telomerase technology and drug development, TA Therapeutics is set to turn back the aging clock.

The partners already have a successful track record of collaboration. For several years they have been working together to screen TCM extracts for their ability to modulate telomerase activity. The joint research has uncovered several promising leads, with patent applications being filed.

The compounds, named GRN139951 and GRN140665, will soon undergo preclinical development at TA Therapeutics, with the aim being to file an identifiable new drug with the Food and Drug Administration.

With a rapidly aging population, the launch of TA Therapeutics is certainly good news for Hong Kong. With more than a quarter of the SAR’s population projected to be aged 65 or over by 2029, the new company’s anti-aging drugs could ease the medical problems associated with aging and also reduce the high costs associated with caring for the elderly.

科大創辦一家新公司TA Therapeutics Limited，研發開發抗老年病新藥。

TA Therapeutics由科大生物科技公司Biotechnology Research Corporation（BRC）及全球領先地位的生物醫藥公司Geron Corporation共同創立。BRC獲香港賽馬會慷慨捐贈1.75億港元成立，由科大全資擁有。

TA Therapeutics檢測中藥對端粒酶活性的調控作用，研究開發新型端粒酶激活藥物。

科大生物技術研究所所長及生物化學系主任葉玉如教授表示：「這些藥物將促進細胞的生長及活動效能，治療老年病及神經退化性疾病，包括帕金森症、骨質疏鬆、肝硬化及癌症等。」

香港賽馬會積極支持科大的工作，3月2日，香港賽馬會向科大捐贈1.75億港元，當中一部份資金將用於TA Therapeutics的研究開發工作，以促進本地生物技術工業的發展。

科大校長徐立之教授在捐贈儀式上表示：「這是大學與工業界成功合作的模式，雙方攜手合作，為人類健康而努力。科大對香港賽馬會慷慨資助，深表感謝。」

科大以中藥研究及新藥開發見稱，Geron則擅長於端粒酶的 recherche 及藥物開發，二者結合優勢，將為治療老年病帶來希望。

科大與Geron為長期策略合作伙伴，共同進行端粒酶研究。自2000年起，研究人員利用Geron的端粒酶專利技術平台，開發藥物小分子化合物。他們從傳統中藥提取不同樣本，以先進技術檢測其對端粒酶活性的調控作用，成功篩選兩項端粒酶活性極高的小分子化合物，並申請專利權。

兩個複合物名為GRN139951及GRN140665，將進行臨床前測試，並向美國藥物和藥物管理局申請，成為臨床研究新藥。

隨著香港人口日益老化，預計到2029年，65歲或以上的人口將佔總體人口的四分之一。TA Therapeutics研發的抗老年病藥物，將有效治療老年病，降低龐大的醫療開支。
The new HKUST-WebEx IT Institute, inaugurated on 10 March, is set to enhance Hong Kong’s competitive advantage in the areas of IT research and the commercialization of new technologies.

The HK$29.2 million Institute evolved as the result of close ties that have existed between HKUST and WebEx since 2002.

Funding for the Institute is being equally shared between WebEx and the Hong Kong Innovation and Technology Fund (ITF), which is making its largest-ever project award under the ITF University-Industry Collaboration Programme. HKUST will bring its world-acclaimed research resources and intellectual know-how to the partnership.

Attending the inauguration ceremony were HKUST’s President Chu, Mr Min Zhu, Co-Founder and Chief Technical Officer of WebEx, Mr Francis Ho, Permanent Secretary for Commerce, Industry and Technology (Communications and Technology), and Prof W S Wong, Science Advisor to the Innovation and Technology Commission.

WebEx is the leading provider of real-time communications infrastructures for business meetings on the Internet. “I am proud that such a leading multinational hi-tech company sees Hong Kong and HKUST as suitable partners with whom to conduct R&D, nurture IT leaders, and promote commercialization,” said President Chu.

Among the Institute’s first objectives will be the development of the next generation of online multimedia collaboration systems. Work will be undertaken in the four major fields of mobile device integration; the development of enabling technologies that enhance online remote collaboration; design of real-time collaborative products to better link overseas clients, in particular from Hong Kong and the Chinese Mainland; and multimedia digital archiving.

“The Institute will leverage greatly on the knowledge and technical expertise of HKUST in conducting IT research and development,” said Mr Zhu. “As for the projects we undertake, these will empower global technology collaboration, linking Hong Kong with the Chinese Mainland and the world.”

Elaborating on Mr Zhu’s comments, Prof Lionel Ni, HKUST’s Head of Computer Science, said: “Imagine a company with its head office in the US, a sales team in Hong Kong, and production team in China.

“Instead of taking flights to communicate face-to-face, the company’s staff will be able to use the WebEx collaborative platform to conduct real-time meetings. There will be a virtual meeting room in which multimedia files can be shared and issues resolved on the spot. This will save time and travel costs, ultimately enhancing communications and productivity.”

The new Institute will also seek mobility solutions so that online meetings can likewise be conducted over mobile devices, such as PDAs and mobile phones.

Praising the partners, Permanent Secretary Ho said: “This collaboration will build Hong Kong into an e-business and digital community, and could have a widespread impact on global business.”

科大與環勝網迅公司（WebEx Communications, Incorporated, WebEx）在香港成立2,920萬港元的資訊科技研究所，發展香港在資訊科技的優勢，為創新技術進行商品化。

科大及環勝資訊科技研究所獲網迅投資1,460萬港元，並獲創新及科技基金提供等額資助，是創新及科技基金的大學與產業合作計劃最大资助項目。科大將為研究所提供研究及學術專長。

研究所是科大與環勝自2002年以來緊密合作的成果。科大於3月10日舉行開幕典禮，由科大校長朱經武教授，網迅創辦人兼首席技術長朱敏先生，工商及科技局常任秘書長（通訊及科技）何宣威先生，及創新科技署署長黃永成教授主持。

網迅總部設於荃灣，在提供網上即時商務會議技術方面居全球領先地位。朱經武教授表示：“網迅選擇香港為發展據點，結盟科大為策略夥伴，進行研究及開發，培育資訊科技領袖，促進商品化，我深以為榮。”

研究所將開發新一代網上多媒體協作系統，包括流動設備；發展應用技術，促進網上協作；開發相互協作產品；聯繫香港、內地和海外的客戶；以及多媒體檔案庫等四個範疇的工作。

朱敏先生表示：“研究中心將充份發揮科大在資訊科技研究及發展的優勢。我們的合作項目將加強全球技術合作，聯繫香港、內地及全世界。”

科大計算機科學系主任倪明樓教授舉了一個例子來說明網上多媒體協作系統的運作：“假設一家公司的總部設於美國，香港分公司負責銷售，生產線則設於內地。在網迅的協作平台，員工可以遠程在虛擬會議室內舉行會議。共用多媒體檔案，即時商討，解決議題，不用飛來各地舉行面對面會議。”

他說：“遠不但可節省時間及交通成本，更能促進溝通，提高生產力。 研究所也提供流動方案，探索如何在筆上電腦及手提電話等流動裝置上舉辦網上會議。

何宣威先生讚揚科大與環勝結成策伴關係：“這項合作將建設香港成為電子貿易及數碼社區，對全球貿易影響深遠。”
Geneticists Recognized for Fight against Diseases
Some of the most satisfying breakthroughs that occur at HKUST are those that extend the boundaries of science and offer the potential to eradicate diseases.

Two scientists whose research offers such hopes are Prof Maria Li Lung (top), Professor of Biology, and Dr Hannah Hong Xue, Associate Professor of Biochemistry. In March, both were appointed Senior Croucher Research Fellows in recognition of their outstanding work in genetics, which is providing windows of opportunity in the battle against cancer and mental illness.

Maria Lung — Cancer

Prof Lung leads a team that has made some remarkable breakthroughs in revealing the genetic causes of nasopharyngeal carcinoma (NPC) and esophageal carcinoma (ESC).

NPC is also known as Guangdong Cancer because its incidence in Hong Kong and Southern China is higher than anywhere else in the world, while ESC is also extremely common among Chinese populations.

Prof Lung has studied the Epstein-Barr virus in nasopharyngeal cancer patients, and provided evidence for the direct association of this virus with the cancer. Her laboratory was also the first to provide functional evidence for the presence of tumor suppressive regions mapped to chromosome 3q21.3 in NPC, and identified other candidate tumor suppressor genes on chromosome 11 that are linked to tumor formation.

“Our goal is to decipher the molecular events that contribute to these cancers. The advances we have made are small but critical steps that will pave the way for discovering effective treatments for the diseases,” said Prof Lung.

NPC alone registers 1,118 new cases and causes 330 deaths annually in Hong Kong. With its peak incidence in sufferers between the ages of 40 and 45, it impacts significantly on the productive work force. Therapies deriving from Prof Lung’s research will therefore have a major beneficial impact on the local economy.

Hannah Xue — Neurological Diseases

Dr Hannah Hong Xue is a renowned biochemist. A member of the Hong Kong team working on the HapMap project — an international collaboration investigating genetic susceptibility to diseases and responses to drug treatments — Xue is perhaps best known for her discovery of the fifth gene linked to the causes of schizophrenia.

In so doing, she identified a haplotype of five single nucleotide polymorphisms in a gene strongly associated with the neurological affliction. This breakthrough established the first direct genetic evidence at the single DNA base level, that a gene of the GABAA receptor in the central nervous system was involved in the development of schizophrenia.

Dr Xue is now also researching the development of anti-anxiety drug supplements. “The guiding motivation of our work is to explore and uncover the causes of mental disease,” said Dr Xue, “and to find effective, safe remedies that will prevent untold millions from suffering debilitating afflictions.”

Dr Xue’s widely acclaimed work in the field of schizophrenia is already assisting the discovery of new therapeutic treatments for a disease that affects one percent of the world’s population, and over 15 million people in China alone.

Award Ceremony

At a ceremony held on 16 March, the Croucher Foundation elected Prof Lung and Dr Xue Senior Croucher Research Fellows for their expertise and inspirational work related to the genetic causes of such diseases as NPC and schizophrenia.

According to the prestigious Fellowships permits Prof Lung and Dr Xue to be relieved of their teaching and administrative duties for the period of one year in order to concentrate their efforts on full-time research.

Guest of Honor at the ceremony, Andrew Li, Chief Justice of Hong Kong’s Court of Final Appeal, congratulated the scientists on their Fellowships. Other appointees this year included Prof Li Ping (City University of Hong Kong) and Profs Zhou Xunyu, Wei Juncheng and Xia Keqing (The Chinese University of Hong Kong).

Speaking after the ceremony, HKUST’s new Croucher Fellows vowed to continue their work and to help keep Hong Kong at the forefront of the fight against cancer and mental disease.

Sze Ping Chiu — General

In 31 December’s issue, the Chinese University of Hong Kong, in its annual research report, said that, with the installation of new equipment and facilities, the University is poised to maintain its position as a world-class research institution. The report noted that the University had spent HK$1 billion on research in the past year, and that the number of staff involved in research had increased by 20 percent.

The University also reported that it had received a total of HK$2.5 billion in research grants in the year, the majority of which came from government sources. The report said that the University had received a number of significant grants, including a HK$200 million grant from the Government to support the University’s efforts in the field of nanotechnology.

The University’s President, Professor Joseph Sung, said that the University was committed to maintaining its position as a world-class research institution, and that it would continue to invest in research and development in order to maintain its position.

The report also highlighted the University’s efforts in the field of education, saying that it had received a number of significant grants to support its efforts in this area. The report noted that the University had received a HK$100 million grant from the Government to support its efforts in the field of education.

The report also highlighted the University’s efforts in the field of public service, saying that it had received a number of significant grants to support its efforts in this area. The report noted that the University had received a HK$50 million grant from the Government to support its efforts in the field of public service.
Excellence Acknowledged in World Rankings

 HKUST has emphatically established itself among the world’s preeminent seats of teaching, learning and research, according to a series of rankings assessments conducted by leading international newspapers the Financial Times (FT) and The Times Higher Education Supplement (THES).

The rankings, compiled throughout the last year, confirm HKUST’s strengths across a broad range of academic disciplines, including business, science, engineering and IT, and social science. They establish HKUST as the:

- World number 42 university (THES)
- World number 20 university for engineering and IT (THES)
- World number 50 university for science (THES)
- World number 57 university for social science (THES)
- World number 44 university for the MBA (FT)
- World number 6 university for the EMBA (FT)
- Asia Pacific number 1 for customized executive education programs (FT)

One of the University’s latest rankings success came on 24 January when the Financial Times published its 2005 assessment of the world’s leading full-time MBA programs. The results reveal that HKUST has leapt 25 places from last year’s 69th position to this year’s 44th, its highest position since joining the FT MBA rankings in 2000. It places 20th in the world for its research strength and, for the fifth consecutive year, ranks first for the international experience the MBA offers.

“Having demonstrated our overall strengths in The Times Higher Education Supplement’s inaugural list of the world’s top 200 universities, the Financial Times’s 2005 MBA rankings lend further substance to HKUST’s glowing international and domestic reputation,” said HKUST President, Prof Paul Chu.

“The Business School’s sustained accomplishments complement those of our Schools of Engineering and Science and confirm the value of HKUST’s efforts to achieve the very highest international standards in teaching and research,” the President added.
Days before the release of the Financial Times MBA rankings, University Grants Committee Chairman, Dr Alice Lam, was on hand to attend a ceremony honoring HKUST for attaining 20th position in the THE ranking of the world’s leading schools in engineering and IT.

Commending HKUST for its successes across the board, Dr Lam said of the University: “Your achievements have been outstanding. You and others have demonstrated that you are fine institutions.”

Dean of Engineering, Prof Philip Chan, took the opportunity to highlight for Dr Lam some of the many ways in which HKUST contributes to the economic development of Hong Kong and the region.

He discussed a range of commercial successes driven by the School of Engineering, which has become a pioneer in building knowledge and working with private sector partners to translate its R&D into viable technologies. These included cutting-edge products such as eco-friendly microfuel cells and nano-electronic displays.

“Our rankings successes are a testament to the commitment of the whole University, and of course the overwhelming and generous support of the entire Hong Kong community,” concluded President Chu.

《金融時報》及《泰晤士報高等教育特刊》等兩份國際知名報刊，進行了一連串排名調查，調查結果顯示科大教學和研究成就卓著，堪稱世界最佳學府之一。

這些排名調查於去年進行，科大在商業、科學、工程及資訊科技及社會科學領域表現出色：

《金融時報》於1月24日刊出2005年度環球最佳全日制MBA課程排名調查，科大從去年第38名躍升至今年的第44名。這是科大於2000年第一次參加《金融時報》MBA排名時即以最高位置，民科大A的學術研究領域排名全球第20名，而在國際研究方面則躋身全球。

科大校長朱經武說：”《泰晤士報高等教育特刊》全球最佳20所大學排名調査，證明科大在實力全面的科大在《金融時報》2005年MBA排名調查成績理想，更加顯示了科大在本地和國際間的聲譽。”

朱校長說：“民科大成就是成就，工學院及理學院也居全球前列，表明科大努力在教學及研究達至最高水平，且繼續領先。”

《金融時報》MBA排名公佈之前，大學教育資助委員會主席林李經如博士，出席民科大工學院獲評為全球第20名而舉辦的慶祝典禮。

林博士致辭時說：“這些傑出成就，顯示科大已發展成一所優秀的學府。”

工學院院長陳正豪教授在典禮上向林博士簡介科大促進香港和亞太地區經濟發展的工作。他列舉工學院把技術轉化為商品的例；工學院開拓知識領域，並與工商界攜手開發具應用價值的高科技產品，譬如環保微型燃料池。工學和納米電子顯示器等。

朱校長總結：“科大的成功，是大學同仁努力的成果，當然也少不了整個香港社會的巨支持和慷慨資助。”
Buoyed by a string of outstanding international rankings, HKUST entered 2005 on a high note, moving in new strategic directions that will take us to even higher planes.

The resounding successes across our four main disciplines — science, engineering, business, and the humanities and social science — once again highlight the excellence we have built up here, and testify to the long-standing internationalization policy of HKUST.

Since our founding days, we have recruited outstanding faculty from around the world, who set the highest global standards and benchmark themselves against the world’s best institutions. Students here learn from this international team of experts and scholars. Many go on to launch their careers in multinational companies or pursue research interests at the frontiers of knowledge.

Being diverse is in our character, and this trait will become even more visible as more non-local students join us in our on-going internationalization drive.

The Business School, for instance, already has the largest exchange program of its kind in Asia. The significant number of exchange and non-local students coming to HKUST every year has enriched campus life in many ways, with Hong Kong students benefiting enormously from the increasingly heterogeneous environment.

Our aim is to recruit more full-time non-local students, up to 20-25% of the undergraduate population in ten years' time.

In our efforts to diversify the student body further, we have built on our deeply seated global character and strengths, and will continue to do so. Our medium of instruction is just one of the more obvious examples of this. From day one we have used English. Not only does this policy facilitate the participation of international students, but also attracts Mainland Chinese students who aspire to gain access to the global business and academic worlds.

In terms of curriculum, being international will increasingly mean educating students in a cross-disciplinary manner. HKUST introduced a Dual Degree Program in Technology and Management in 2003, and a new double major four-year degree program in computer science and logistics will be offered this September.

The winners of tomorrow will be those who are on top of both technology and management, who have a deep awareness of social needs and aspire to change the world for the better rather than toe the line. They will be engineers, managers, and scientists. But they will also have to be so much more if they are to make a real impact on the well-being of society and global development. They will need a perspective that enables them to break the traditional barriers between professions and trades. Such leaders and innovators will only be bred in a truly cross-disciplinary environment.

Across disciplines and across international boundaries, these are the strategic directions that we are mapping for our future.

科大最近接連在多個世界排名榜位居前列，成績令人鼓舞。踏入2005年，科大看得更遠，站得更高，走在嶄新的策略方向，更上一层樓。

我們在科學、工程、工商管理及人文社會科學四個主要領域取得很大的成功，再一次印證了科大的教研卓越，以及長期以來奉行國際化策略的成就。

自創校伊始，我們從世界各地招納最優秀的教授，他們訓練有素，以最高標準為尚，媲美全球頂尖學府。同學受到國際專家、學者，不少人畢業後投身跨國企業，有的則繼續創造知識，站在研究前沿。

我們力求多元化，隨著越來越多非本地生加入科大，大學越趨國際化，多元化。

商學院的交換生計劃規模之大，居亞洲之冠。科大每年迎來相當數量的海外交換生及非本地生，豐富了校園文化和生活。香港的學生置身這個多元文化的學習環境，大受裨益。

我們的目標是在10年內增廸全日制非本地生，約佔本科生數目的兩至兩半成。

科大國際化根基深厚，憑著這優點，促使學生多元化，做出更好的成績。數學語言是一個明確的例子。創校的時候，我們已確定以英文授課。這項政策不但為國際學生創造有利的學習環境，對有意在香港認識環球商業及學術世界的內地生來說，也極具吸引力。

在課程方面，我們需要設計跨學科的課程，培育具國際視野的學生。早於2003年，科大創辦科技及管理四年制雙學位課程，今年9月，將推出嶄新的計算機科學與物流雙主修四年制本科課程。

未來的社會無邊界科技與管理之長，深請社會需要，不因隔閡為，創新求進。他們也是工程師、管理人員及科學家，但他們別具識見，打破傳統專業與行業的框架，促進社會的進步，世界的發展。只有一個真正跨學科的學習環境，才能培養出未來的領袖、創新者。跨學科發展，正是科大的另一項主要目標。

跨越學科領域，跨越國際邊界，科大朝著兩個策略方向，向未來進發。
Faculty Promote UN Year of Physics

The International Year of Physics 2005 has been launched by the United Nations to celebrate the 100th anniversary of Einstein’s scientific discoveries. HKUST faculty members, alongside their counterparts from other local universities, are actively promoting this worthy initiative in Hong Kong.

The Hong Kong Science Museum and the Hong Kong Physical Society are co-organizing a series of six lectures on Einstein’s work that runs from January through June 2005. President Chu was invited to give an opening speech at the first lecture, in which he recognized Einstein both for his scientific achievements and for his efforts to promote humanitarianism. HKUST’s Dr Michael K Y Wong, Associate Professor of Physics, will also deliver a lecture entitled "Einstein and the World of Atoms" in April.

The Physical Society of Hong Kong has organized colloquia for undergraduate and graduate students, and also sent a team of six undergraduates to the Launch Conference of the International Year of Physics 2005 at UNESCO’s Paris headquarters. HKUST was represented at this event by physics student Yiping Ma.

The program provides two alternatives: participants can undertake two months of research during the summer session, receiving a research stipend of HK$8,000; or they can conduct a research project during the semester and earn one credit for their work. The University expects to provide 50 research studentships this summer.

Internship Programs

The School of Science is further developing its undergraduate research program with generous support in the form of a HK$70,000 donation from Suzuki Café Scholarships. 14 undergraduate researchers have been awarded the scholarship, worth HK$5,000 per student, this year.

Tianheng Han (left), a physics major in his second year, is one of the awardees. He participated in Dr Kwok-Kwong Fung's work on the microscopy of nanostructure in insects. "Research is fun because it takes my experience beyond the classroom. I can apply what I’ve learnt in real situations, and create new knowledge. I’m now more determined than ever to pursue a career in research," he said. Other internship programs offered by the School include the Outgoing Junior Science/Mathematics Courses and the Science Museum Exhibition Program.

University measures to support students in research activities during their first and second years. Through early exposure to a stimulating research environment, the program will develop participants’ interests in research at the earliest possible stage of their education, and further promote HKUST’s own unique research culture.

"Through research, undergraduates not only learn from existing knowledge, but also experience the exciting challenge of creating new knowledge," said Prof T C Pong, Associate Vice-President for Academic Affairs.

"Am I Einstein?"

Recently, the Department of Physics launched "Am I Einstein?" and "Are You a Physicist?" activities to entice students, particularly those in STEM-related courses, to consider the field of physics as a career.

"Am I Einstein?" is a new seminar series organized by Lecturer David Chan and aimed at freshmen to help them understand the importance of physics. It explores intriguing problems such as the origin of the universe, black holes, and the nature of space and time.

"Are You a Physicist?" is a professional development and networking initiative. It is designed to introduce students to the diverse career opportunities in physics and to provide a platform for students to interact with physicists in various fields, including academia, industry, and government. The seminar features presentations by faculty members and guest speakers from local and international institutions.

The seminars are designed to engage students and build their interest in physics. The success of "Am I Einstein?" and "Are You a Physicist?" will encourage the Department of Physics to organize more such events to attract and retain students in physics.

The seminar received positive feedback from participants, who expressed their appreciation for the insightful discussions and the opportunity to explore the fascinating world of physics. They were encouraged by the stories shared by the speakers and motivated to pursue physics as a viable career option.

The seminars have played a significant role in promoting the study of physics at HKUST and have helped to increase the visibility and attractiveness of the field among students. The Department of Physics is committed to continuing these initiatives to support and inspire students interested in pursuing physics as a career.
Stronger Ties with the Mainland 科大拓展內地聯繫

The last two months have seen HKUST strengthen its ties with mainland educators and institutions, with campus visits by government officials, academics and school principals, and the conclusion of an academic agreement on further collaboration.

過去兩個月，內地政府官員、學者和中學校長到訪科大，加強了大學與內地教育工作者及機構的聯繫。

HKUST-UST Beijing Pact 科大與北科大簽定協議

An agreement between HKUST and UST Beijing (USTB) was signed on 31 January, paving the way for deeper collaboration on education and research.

Under the agreement, signed by the universities’ presidents, the institutions will conduct joint research in areas of shared interest, namely materials engineering, mechanical engineering, environmental engineering, computer engineering, chemical engineering and bioengineering. Alongside research, the pact creates exchange opportunities for faculty and students. Conferences, seminars, and summer camps are also to be arranged.

President Chu said at the signing ceremony: “HKUST and USTB have a shared vision of being world-class research universities. I am sure that today’s ceremony is merely the beginning of a relationship that will see collaborations, as well as exchanges among our faculty and students, continue to expand.” President Xu Jinwu of USTB concurred, and said the agreement would further deepen the bond between the two institutions.

科大與北京科技大學於1月31日簽定協議，共同發展教育和科研。

根據協議，兩校將按彼此關注的項目進行合作研究，譬如材料工程、機械工程、環境工程、計算機工程、化學工程及生物工程等。研究以外，協議也訂明兩校教授和學生可進行交流互訪。其他交流活動包括會議、研討會及夏令營等。

在簽約儀式上，朱經武校長說：“科大和北科大的共同目標，就是要成為世界級的研究型大學，今天的儀式，只是兩所大學合作的開端。我相信，今後我們的教授和學生會有更多的交流，更多的合作。”北科大校長徐金程教授也希望協議能夠進一步拓展和深化兩校的交流和合作。

Vice-Minister of Education Visits 教育部副部長訪問科大

On 21 January, Mr Zhang Baoqiang, China’s Vice-Minister of Education, visited HKUST and met with President Chu.

The President briefed Mr Zhang on HKUST’s specialized areas of research, highlighting our work in environmental sciences and engineering with particular relevance to China.

“Collaboration on scientific research and education is crucial,” Mr Zhang said, “I hope that through this visit, we can explore ways to enhance collaboration between universities on both sides.”

國家教育部副部長張保慶先生於1月21日訪問科大，並與朱經武校長會面。

朱校長向他介紹科大專注的科研項目，也講述大學研發的新科技如何貢獻國家，例子之一就是環境科學及工程學。

張部長表示：“科研和教育合作至為重要，我希望這次訪問可以加強兩地大學的合作。”
Mainland Educators at HKUST
內地教育界訪問科大

During December and January, 42 principals of leading secondary schools in Beijing and Guangzhou, as well as 10 representatives from the Education Commission of Beijing and the Education Bureau of Guangzhou, visited the HKUST campus at Clear Water Bay.

These visits highlighted HKUST’s objective to recruit high-caliber mainland students, who make up a sizable proportion of the University’s non-local students. The University’s intake of non-local students in 10 years is targeted at 20-25% of the undergraduate population, according to Associate Vice-President for Academic Affairs Prof T C Pong. To date, 403 students from 10 provinces and cities have been admitted.

The delegates toured HKUST’s facilities, including the library, student halls, and laboratories. Senior administrators also briefed them on HKUST’s development.

Mr Zhang Yongqi, principal of the Beijing No.12 Middle School, praised HKUST for its academic excellence: “HKUST has a beautiful campus, and an outstanding faculty,” he said. “[Mainland] students here can learn a great deal about the rest of the world and pass their newly acquired knowledge on to their old schoolmates back home.”

Mr Zhang’s comment was echoed by HKUST business student Liu Mochao, a graduate of Jing Shan Middle School in Beijing. “HKUST people are confident, enthusiastic, and ready to accept challenges,” he said.

Mr Shen Ziming, Director of the Primary and Secondary Education Department of Guangzhou’s Education Bureau, believes collaboration between HKUST and the Mainland’s education sector can be mutually beneficial. “We look forward to working with the tertiary institutions in Hong Kong, so that our students can have more access to an internationalized education,” he said.

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International Summer School for Young Talent
科大首創學分制夏季課程

Hong Kong’s first ever credit-based summer school for local, mainland and international students will be held at HKUST this summer. Designed to give senior high school students a first taste of university life at HKUST, the three-week summer school is expected to further advance the University’s internationalization drive.

"Through the program the University will leverage on Hong Kong’s unique position as a cosmopolitan city, and promote HKUST’s profile as a research university with an international outlook,” said Prof T C Pong.

The summer school will be held from 17 July through 5 August, with an optional tour to the Pearl River Delta (PRD) region and Nansha IT Park from 5 to 7 August. Half, or 40 of the available places, will be reserved for mainland and non-Hong Kong students.

With a wide variety of structured academic courses and enrichment activities, the program will be as challenging as it is rewarding. All course materials are designed and delivered by HKUST faculty members to ensure the highest quality. Upon completion, participants will be awarded two credits, which count towards an HKUST degree.

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科大今年將推出香港第一個為本地、內地和國際學生而設的學分制夏季課程。課程將從7月17日至8月5日舉行，學員可選擇參加8月5日至7日的珠江三角洲暨南大學夏令營。一方面（約40個）學習將會留在香港，而另一方面（約40個）將會留在內地和非本地學生。

夏天課程兼學術及課餘活動，內容豐富。科大教授負責設計教材和授課，以確保課程水平。學員修完後由兩院授予學分。
The University’s name is synonymous with excellence in teaching and research. The tradition of excellence is also perpetuated by HKUST’s graduates, who are increasingly coveted by leading local and multinational employers. Preliminary data from the latest HKUST graduate employment survey indicate that this trend is set to continue, with more than 99% of the Class of 2004 being snapped up by employers, starting their own businesses or pursuing further studies. Among HKUST’s sought-after graduates is the following quartet. Representative of their HKUST graduate peer group, each of them is blazing a career trail with top-notch organizations in sectors as diverse as academia, finance and technology:

Dr Seng Yuen Leung
HKUST Degree: PhD in Mathematics (2004)
Current Job: Quantitative Finance Researcher

Dr Seng Yuen Leung was appointed a Quantitative Finance Researcher by a leading international investment bank immediately after taking his doctoral degree, becoming the first local PhD graduate hired to fill such a position.

He is responsible for exploring and developing new investment products, and developing risk management strategy. Complicated mathematical problems cross his desk on a daily basis, and he has to translate the financial solutions he devises into layman's terms that securities dealers can understand and apply.

Seng Yuen chose to pursue his doctorate at HKUST because the University's Department of Mathematics was the only local tertiary institution with two faculty members specializing in financial mathematics, and their strong links to the financial sector helped foster his market acumen.

He believes that with more international investment organizations developing new products in the local market, not only will demand for more quantitative finance researchers increase, but other positions requiring doctoral degrees in mathematics, such as fund analysts and risk analysts, will also create demand for local talent.

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Dr Helen Cheng Y. Pik and husband Siow Ngiap Chin

Dr Jia Tang

Ada Ho

Graduates Extend HKUST Reputation among Employers
Name: Jiqing Tang
HKUST Degree: MPhil in Industrial Engineering and Engineering Management (2005)
Current Job: System Software Engineer, NVIDIA Corporation

Representing HKUST at the 2003 TopCoder Open Final competition, Jiqing Tang was third runner-up. The real bonus for his performance though was being invited by one of the competition sponsors, NVIDIA Corporation, to be a summer intern in the US.

As a result of his excellent work during the internship, Jiqing was offered a job as a System Software Engineer by the company. He now works with a group of other top-notch programmers at NVIDIA’s headquarters in Silicon Valley.

NVIDIA is one of the world’s biggest and most innovative personal computer display card producers. Jiqing’s role with the company involves developing and updating drivers, which requires excellent programming skills and a thorough knowledge of electronics circuit design.

Jiqing says that HKUST not only provided great flexibility in the structure of his program, but also gave him ample opportunity to take part in international competitions. The dynamism of the program and his exposure to so many stimulating areas of engineering while at HKUST, have better prepared him for his work in the fast-evolving field of software engineering, he believes.

Name: Ada Ho
Current Job: Financial Analyst, Goldman Sachs

In November 2004, HKUST graduated its first batch of Global Business (GBUS) majors. These promising young men and women are already making their professional mark, with Ada Ho among them.

Ada is currently working at Goldman Sachs, the leading international investment bank renowned for its rigorous hiring standards. There, she analyzes market information in the media sector, assists in the writing of publications, and maintains financial models.

The key to her success she attributes to the quality of teaching and exposure offered at HKUST. The courses she took gave her the fundamental skills and knowledge needed in the industry. The University also provided her with comprehensive exposure to the business sector.

Exchange and internship opportunities are integral to the HKUST GBUS program, and Ada attaches great significance to them. Her undergraduate internship experiences at Goldman Sachs and JP Morgan Chase equipped her with a broad set of analytical and quantitative skills that have been of considerable help in her career. And her semester at UC Berkeley provided the international exposure so important in business.

Name: Dr Helen Cheng Yi Pik
HKUST Degree: BEng and MPhil in Civil Engineering (1996 & 1999)
Current Job: Lecturer, University College London

HKUST not only provided Dr Helen Cheng with a comprehensive grounding in geotechnical engineering, but with its international strengths the University also opened her eyes to the possibility of studying overseas.

Assisted by a scholarship from The Croucher Foundation and contacts established between HKUST’s Department of Civil Engineering and Cambridge University, in October 1999 Helen left Hong Kong to take her PhD at Churchill College, Cambridge.

After completing her thesis, in which she analyzed the micromechanical modeling of soil plasticity and observed the surface microstructures of sands during one-dimensional compression, Helen was elected Maudsley Fellow at Pembroke College, Cambridge. After nearly five years at Pembroke, Helen is now transitioning to one of England’s finest research institutions, University College London, where her impressive qualifications and experience helped land her a lecturership, teaching an undergraduate course in soil mechanics.

Cambridge and London might seem a long way from Clear Water Bay, but the young academic says her colleagues and co-researches in England are well aware of HKUST and its fine reputation.

Name: J. Adisorn
Degree: BSc in Engineering Science (2002)
Current Job: Vocational Training Engineer, Japan International Cooperation Agency (2005)

After graduating from HKUST, J. Adisorn worked as a vocational training engineer for the Japan International Cooperation Agency in Thailand. He was responsible for training programs for engineers and technicians in various industries.

J. Adisorn believes that HKUST provided him with the necessary skills and knowledge to successfully adapt to his new environment. He also credits his experience at HKUST for his ability to effectively communicate and work in a multicultural setting.

J. Adisorn’s time at HKUST was not only academically enriching but also personally rewarding. He made lifelong friends and developed a strong sense of community, which he carries with him to this day.

Name: Tomoaki Iida
Degree: BEng in Electrical Engineering (2000)
Current Job: Research Engineer, Fujitsu Limited (2001)

After completing his degree at HKUST, Tomoaki Iida joined Fujitsu Limited as a research engineer. He worked on projects related to computer networking and telecommunications.

Tomoaki Iida credits HKUST for providing him with the technical knowledge and research skills necessary to succeed in his career. He values the opportunities he had to work on cutting-edge projects and collaborate with fellow students from around the world.

Tomoaki Iida’s experience at HKUST has been transformative, shaping his career path and personal growth in ways he could never have anticipated.
Innovative Design Technologies Presented At Chip Olympics

Two researchers from the Department of Electrical and Electronic Engineering (ELEC) presented research papers at the International Solid-State Circuits Conference, also known as the “Chip Olympics” on 8 February. Their novel designs will help manufacturers create portable electronics more compact in size, and wireless equipment capable of carrying more data for future multimedia applications.

High Performance at Low Cost

Dr Hoi Lee, a 2004 PhD graduate, is successfully finding improved ways to design power management integrated circuits that can maintain a steady supply of power for new generation portable electronics, whose demands for lower supply voltage and longer battery lifespan are increasingly high.

By implementing switched-capacitor power converter modules and the novel pseudo-continuous output regulation technology that alternately regulate the output current without hampering performance, Dr Lee has reduced the chip size of power management integrated circuits by 20% and the capacitor values by 10 times, in turn reducing production costs fivefold.

Recycling Idea Rewarded

Wing Lun Ng, an MPhil student, tackled the performance issue of high frequency wireless applications in which voltage and power consumption increase as transmission frequency rises. Ng and his team developed novel ultra-low-voltage high frequency components in a phase locked loop (PLL), the crucial device in wireless applications, and “recycled” their electric current, thereby minimizing total power consumption. A prototype has been created with the cheapest complementary metal oxide semiconductor (CMOS) process that has achieved a 24 GHz output frequency — among the fastest in the world with the lowest supply voltage of 1V.

Research Excellence

Dr Hoi Lee and Ng expressed their gratitude to their supervisors Dr Philip Mak and Dr Howard Luong for their dedicated guidance. HKUST researchers have been invited to present their research findings at the Chip Olympics almost every year since 1997. To date, HKUST is the only university from Hong Kong to appear at this international event.

低成本 高效益

李海博士（2004年博士）開發了一套新的功率集成電路設計技術，維持電源穩定的電路元件，必須提供更低的供電電壓，以延長新一代手提電子產品電池的壽命。

現今大部分功率集成電路使用傳感器來確定電壓供應，這種器件會產生電磁干擾，並且會增加元件的高度。李海博士利用開關電容功率轉換器模組取代傳感器，以及新型的虛擬壓鑄出類似技術，以降低高頻輸出的電流和電壓，使得功率集成電路的芯片可以減少20%，而需要的電容器數量亦減少10倍，製造成本節省五倍。

循環再生

吳詠倫（電機及電子工程學系碩士生）為高頻無線通訊應用，提供有效的電路設計方案，解決相應應用的功率消耗增加的電路設計問題。

吳詠倫的研究小組為高頻無線電路的關鍵器件“鎖相環路”（PLL），開發新組的超低電壓、高頻元件，可以“循環再生”電流，降低PLL的總功率消耗，他以成本最低的超低電壓氧化半導體（CMOS）技術製作測試原型，其頻率輸出高達24GHz，這是目前世界上最高達，供電電壓最低（1V）及功率消耗極低的PLL之一。

卓越科研成就

李海和吳詠倫致謝導師兼同系博士及吳詠倫和博士的悉心指導。科大自1997年起，為數每年都有研究生獲邀在研討會上發表論文，亦是至今香港唯一獲邀在研討會發表論文的院校。
Nancy Ip Named TWAS Fellow
葉玉如獲發展中世界科學院院士

Prof Nancy Ip, Head of Biochemistry and Director of HKUST’s Biotechnology Research Institute (BRI), is one of 68 new scientists to be elected a Fellow of The Academy of Sciences for the Developing World (TWAS). The Fellowship recognizes her contributions to neuroscience and biotechnology. Prof Ip’s discovery of a number of neurotrophic factors and how they activate specific receptor molecules on nerve cells will help identify potential pharmaceutical agents for treating neurodegenerative disorders, such as Alzheimer’s and Parkinson’s disease. Her discovery of novel signaling mechanisms at the neuromuscular junction also sheds new light on the treatment of nerve-muscle disorders.

Researchers Appointed to CAS Think-Tank
三教授獲聘中科院海外評審專家

The Chinese Academy of Sciences (CAS) has appointed three faculty members as Overseas Experts to promote research collaboration, conduct evaluation and award research projects. They are: Prof Lionel Ni, Head of the Department of Computer Science, a specialist in computer systems and networking; Assoc. Prof. Physics Dr. Zikang Tang, a nano expert who developed the world’s smallest single-walled carbon nanotube; and Prof Mingjie Zhang of Biochemistry, who studies the structure and functions of proteins in regulating neuronal signal transductions. Only four of the 84 Overseas Experts elected by the CAS this year are from Hong Kong.

Prof Cao Appointed IEEE Committee Chair
曹希仁任會士評審會主席

Prof Xiren Cao of the Department of Electrical and Electronic Engineering has been appointed Chair of the IEEE Fellow Evaluation Committee of the IEEE Control Systems Society (CSS). Prof Cao, himself an IEEE Fellow, will lead the committee in electing new fellows this year. The US-based Institute of Electrical and Electronics Engineers (IEEE) has 360,000 members from approximately 175 countries.

Display Inventor Elected SID Fellow
郭海成獲選資訊顯示學會會士

Prof Hoii Sing Kwok, Director of the Center for Display Research and Professor of Electrical and Electronic Engineering, has been elected a Fellow of the Society for Information Display (SID). SID recognizes his “contributions to the development of liquid crystal on silicon microdisplays and related optical systems, and for the development of bistable twisted nematic liquid crystal displays”.

電機及電子工程學系曹希仁教授，獲委任為電機及電子工程學會控制系統分會會土評審委員會主席，負責選出本年度會士。曹教授於1986年獲電機及電子工程學會院士榮譽。電機及電子工程學會設於美國，共360,000會員來自約175國家。
British Education Minister Visits
英教育副部長訪科大

A delegation led by Dr Kim Howells, Minister of State at the Department for Education and Skills, UK, visited HKUST on 17 February to exchange views on lifelong learning, higher education and executive education programs. The delegation also went to Beijing to attend the first UK/China education summit.

Facilities of the Institute of BioEngineering (IBE) were open to the delegation members and the public.

Fresh Links with Ireland
愛爾蘭合作新機

The Director General of Science Foundation Ireland, Dr William Harris, led a delegation to campus on 22 January, visiting HKUST’s Biotechnology Research Institute, the Institute of NanoMaterials and NanoTechnology, the CLP Wind/Wave Tunnel Facility, and the Department of Computer Science. During the visit, the delegation also explored possible collaboration between HKUST and Irish universities, and use of the wind tunnel for interdisciplinary research.

HKUST Revisited by Aberdeen Chancellor
衛奕信勳爵重臨科大

Chancellor of the University of Aberdeen and former Governor of Hong Kong, Lord David Wilson, visited HKUST on 11 January and met with President Chu. Lord Wilson, a sinologist, also visited the Center on China’s Transnational Relations and its Director, Prof David Zweig. On 2 October 1991, Lord Wilson hosted the University’s opening ceremony in his capacity as Governor of Hong Kong.

MPEG Experts Convene
MPEG 專家薈萃

The Moving Picture Experts Group (MPEG) convened at HKUST for its 71st meeting, and first in Hong Kong, from 17 to 21 January. More than 300 video and audio experts from academic institutions, and top industry players, including Sony, Dolby and IBM, met to define and refine the latest encoding standards. A workshop was also held on 22 January to consider the latest trends in video and audio technology.