





When the Hong Kong University of Science and Technology first opened its Clear Water Bay campus to students on 2 October 1991, it was already ahead of its time. Classes had been due to start in the fall of 1994 but this schedule was not quick enough to meet the urgent needs of Hong Kong. At the request of the then Governor, Sir Edward YOUDE, it was decided to advance the launch date by three years.

Only in Hong Kong could people dare to come up with such a punishing schedule — and then turn it into reality.





With a clear vision and strong will, Dr SY Chung spearheaded the establishment of HKUST.

The Time Is Now

Dr the Hon Sze-Yuen CHUNG, a leader of clear vision and strong will, and Sir Edward YOUDE, who arrived as the Governor of Hong Kong in 1982, were the men with the original plan for a third university.

By the mid-1980s, the economic world was changing, and changing fast. The buzzwords of the new era were high technology, R&D, microelectronics, and information. Yet Hong Kong had turned few thoughts in such directions.

Sir Edward and Dr Chung saw what had to happen. Hong Kong required a

university that could propel it towards a technology-based economy, and provide the people to operate within the new parameters. Business managers, entrepreneurs, engineers, scientists providing groundbreaking research for local industries to apply — all were urgently needed. Create, don't replicate, would be their goal.

So, from the outset, HKUST was destined to be different. It would move quickly and tread an individual path. Innovative thinking would be at its heart.

Moving Ahead

After Sir Edward's untimely death in service in 1986, his wish to race ahead with the new university was translated into action by the Planning Committee, under the leadership of Dr Chung.

By September 1987, the Committee's first report could announce that the "third university" had a name — The Hong Kong University of Science and Technology — chosen from suggestions made by the public.

It had a beautiful site on land formerly allocated for Kohima Barracks at Tai Po Tsai on the Clear Water Bay peninsula. It had an academic profile, projected staffing and student numbers, and its design was being finalized.

Dr Chung, then the Senior Member of the Executive Council, was well aware

of the critical nature of the project for Hong Kong.

"We were fighting with time," says Dr Chung, a PhD in engineering and later HKUST's first Council Chairman. Labor-intensive industries were moving out of Hong Kong and across the border to the lower-cost Mainland very rapidly. Science and technology researchers and graduates were urgently required.

Assistance came in the form of the (Royal) Hong Kong Jockey Club which was prepared to give HK\$1,500 million — later raised to HK\$1,926 million — and to manage the building of the University, with the Government making up the balance of the final construction costs. The Jockey Club had tackled many

major projects, including the Hong Kong Academy for Performing Arts and the Jubilee Sports Centre. With its expertise, a faster construction schedule now became possible.

Leading the Way

On 10 April 1988, the *Hong Kong University of Science and Technology Ordinance* was brought into effect. The Ordinance clearly laid down the University's mission: HKUST was to advance learning and knowledge through teaching and research — particularly in science, technology, engineering, management, and business studies — and at the postgraduate level. In addition, it was charged to assist the

economic and social development of Hong Kong.

The direction was set. What path would the University take to achieve it? The key would be the President of the new institution. Dr Chung recalls the international search that followed: "My view was that, firstly, we must pick a person with a high standard of academic achievement, otherwise we wouldn't be able to attract other good scholars.

"The job required the person to create something out of nothing, so he must have had good experience in managing a university or he wouldn't know about setting the first standards. Thirdly, because Hong Kong was going back to China, it was preferable, if not



The Planning Committee meeting in 1987.



Prof Chia-Wei Woo took up the challenge as HKUST's first President and found his life completely turned around.



mandatory, to find a person who could communicate in Chinese.

"Well, it proved tough to find anyone in the world. But we did have such a person on our Planning Committee."

That person was Professor Chia-Wei WOO, then President of San Francisco State University. Professor Woo was a distinguished theoretical physicist and the first person of Chinese descent to head a major university in the United States. "He could speak Cantonese and Putonghua, and having been on the Committee, he knew us, the policy of the Government, and the aims of the University," says Dr Chung. "And we knew him."

Professor Woo was asked to interview for the job, and soon afterwards found his life completely turned around. On 5 November 1987, the then Governor,

Sir David WILSON, made the formal announcement that Professor Woo was to be the founding President of HKUST.

The top academic had been away from Hong Kong for over 30 years. His family and friends were in the United States. Yet he decided to come back, setting a pattern for many of the faculty who later joined him from overseas.

The Pioneers

One of the hardest tasks in developing a new university is to establish its standing inside and outside the academic world. Without the benefit of a track record or history, it has to try to attract the best faculty, students, and postgraduates; gain public recognition; and make its presence felt among its peers.

"You've got to start from the top because only first-class people can attract other first-class people. In fast-moving fields such as science, engineering, and management, you are either first-class or without class," Professor Woo says. So, right after he arrived back from San Francisco to take up his appointment in September 1988, he went all out to bring first-class people to HKUST.

Some of the senior faculty who joined the University were born on the Chinese Mainland, their families leaving for Taiwan in the late 1940s. After graduation, they had gone to the United States for further study and had stayed on.

"When I visited the campus in 1989, the site was just rocks and weeds. President Woo told me: 'We're going to start a class right here in two years.' I said he must be dreaming, though that's the way it happened."



Prof Chih-Yung Chien



Prof Jay-Chung Chen

Although these professors had been in the US for decades, there lingered within them the desire to do something for the motherland, for international cooperation, or to bridge the gap between East and West. HKUST tapped that wish.

"Their hearts were still warm," Professor Woo says. "They had talent, they had ability, but in the end what brought them here was their hearts."

One of the first to arrive was Professor Chih-Yung CHIEN, a top experimental physicist from Johns Hopkins University, then conducting research on the world's largest high-energy accelerator at the European Organization for Nuclear Research (CERN) near Geneva.

In 1988, Professor Chien was appointed HKUST's first Dean of Science. Two years later, he became Vice-President for Academic Affairs, helping the President with the urgent and monumental tasks of recruiting staff, establishing the core academic programs, deciding on research initiatives, and designing laboratories.

Professor Jay-Chung CHEN, an expert in aeronautics and structural dynamics, whom the President recruited from the Jet Propulsion Laboratory at the California Institute of Technology, became Director of the Research Center and Professor of Mechanical Engineering in 1989. On moving to HKUST, Professor Chen jumped in with both feet and began a seven-day-a-week

work schedule that has persisted till now.

"We all had high dreams of building a world-class university and people really worked very hard, improvising when needed in order to make things happen. Gradually we saw the University grow bigger and stronger. It was very satisfying," says Professor Chen.

Professor H K CHANG, then Chairman of the Department of Biomedical Engineering at the University of Southern California, and his wife Min-min CHANG, Associate Director of Libraries at the California Institute of Technology, were among the people Professor Woo worked on to join HKUST. They left North America after 25 years and came

"How many times in your life do you get a chance to start something from scratch? I knew if we put our heads together we might surprise somebody."



Prof Peter Dobson



Prof Shain-Dow Kung

Ms Min-min Chang

as Dean of Engineering and Director of the Library, respectively.

Professor Shain-Dow KUNG arrived in 1991 as Dean of Science. Professor Kung, who specializes in biotechnology and genetic engineering in plants, had previously been Acting Provost at Maryland Biotechnology Institute and Professor of Botany at the University of Maryland. Like the Changs, he had been in North America for over 25 years.

As Professor Kung recalls: "I got a call in March 1990. After interviews, they made me an offer. I declined because I wasn't ready. I had a very good job and my family didn't want to leave. After I turned down the offer, I had a really funny feeling. I knew there were already very

good people there and it felt as if I was being left out."

Fortunately for Professor Kung, those at HKUST do not give up easily. Several months later, he got another call. As he was about to embark on a trip to Taiwan, the professor arranged to stop over in Hong Kong. He was offered the job again — and accepted.

There were younger stars too. In 1990, 37-year-old Professor Yuk-Shee CHAN, a graduate of the Chinese University of Hong Kong who had gained his MBA and PhD at the University of California, Berkeley, started a concurrent appointment as Justin Dart Professor of Finance at the University of Southern California and Professor of Finance in HKUST's School of Business and

Management. In 1993, Professor Chan became the School's founding Dean.

A Borderless World

Although many of the early faculty were of Chinese descent, senior academics from North America and Europe were keen to take up the challenge to build a new research university in Hong Kong.

Professor Peter DOBSON, who had been Acting Vice-President for Academic Affairs at the University of Hawaii, has worked side by side with President Woo since 1989 and contributed to the formulation of the University's resource needs, policies, and regulations, as Director

"From the first day, the School had been given a very clear mandate by the University: to establish itself as a leading business school in Asia by the turn of the century. Such an ambitious 10-year horizon was a very challenging, exciting prospect."



Prof Yuk-Shee Chan



Prof Thomas Stelson



Prof Gregory James

"By the grace of God and a touch of magic, everything came together."



Mr Ian Macpherson (left)

of Planning and Coordination and later Associate Vice-President for Academic Affairs.

"Building a new research university happens just a few times a century," says Professor Dobson. "The early days had a real pioneer spirit. There was a small group of people and whatever needed to be done, you did. There were few borders. It was really exhilarating."

In 1989, Professor Maurice CRAFT, former Pro-Vice-Chancellor of the University of Nottingham in the United Kingdom, became Dean of the General Education Center — later the School of Humanities and Social Science. In 1990, Professor Thomas STELSON, former Executive Vice-President of Georgia Institute of Technology, became

Vice-President for Research and Development; and Professor Gregory JAMES, Senior Lecturer in Applied Linguistics at the University of Exeter, with qualifications in over 10 languages, became — and remains — Director of the Language Center.

These and the other founding faculty were experts in different fields, but all had similar ambitions. They wanted the University to become a world-class research institution in the decade that lay ahead. They strove to recruit other top academics and attract the best research students; and they sought to transmit their enthusiasm so the students too, both undergraduate and postgraduate, would aspire to creative heights.

Behind the Academic Scene

Non-academic staff were finding HKUST a life-changing experience. In 1986, Mr Ian MACPHERSON, the Hong Kong Government's Secretary for Transport, was appointed Secretary-General to the University Planning Committee by Sir Edward Youde. Tertiary education was a new adventure for Mr Macpherson. He relished his involvement with HKUST and the chance to be part of such a great endeavor.

"It was a daunting task," Mr Macpherson recalls. "We had no site, no staff, no academics initially, just a piece of paper saying we were going to build a research university."



Mr Paul Bolton



Mrs Catherine Lai



Ms Magdalena Leung



Ms Loretta Pang

At the first University Council meeting held in 1988, Mr Macpherson was asked to become acting Vice-President for Administration and Business dealing with the non-teaching and non-research aspects of HKUST. After 30 years as a civil servant, he embarked on a fresh path. His multi-faceted job involved overseeing the Finance Office, the Estates Management Office, the Purchasing Office, the Student Affairs Office, the Personnel Office, and the Admissions, Registration and Records Office. In 1990, Mr Macpherson was appointed Vice-President for Administration and Business, a position in which he served until he retired in 1995, handing over to Mr Paul BOLTON.

HKUST made an indelible impression on Mr Macpherson. "Although all my jobs have been demanding and challenging, the sense of having helped build HKUST made my time with the University the most fulfilling years of my whole life," he says.

Other non-academic administrators ensured that the University's logistical needs were met. Some long-serving staff members joined HKUST in its earliest days and have moved with the University from its initial base in St John's Building in Central to Harbour City in Tsim Sha Tsui, and are still at work now on the Clear Water Bay campus. Among them are Mr Mike HUDSON, Director of Estates Management; Mrs Catherine LAI, Director of the Court, Council and Senate Secretariat; Ms Magdalena LEUNG, Assistant to the President; and Ms Loretta PANG, Director of University Development and Public Affairs.

"By the time I arrived in July 1995, much of the University's infrastructure was in place," says Mr Bolton, current Vice-President for Administration and Business, who had 30 years of experience as a university administrator in the United Kingdom. "It was immediately apparent to me that all the non-academic staff were fully

committed to playing their part in creating a first-class university in as short a time as possible. That same commitment remains today."

In 1997, HKUST became the first university, and the first non-American entrant, to win the International Facility Management Association's Golden Circles Award.



Mr Mike Hudson (standing, second from right) attributes the success in estates management to the support of his staff.



Mission Impossible

At the same time as the "soft" infrastructure was being forged, frantic activity was underway to ensure there would be buildings to house the University in time.

HKUST was the largest civic project managed by the Jockey Club, and the speed at which the first two phases had to be built was regarded as close to impossible. The first phase called for facilities for 2,000 students to be completed by July 1991, less than two years after the first contract was awarded. The second, to be ready by 1993, had to accommodate a total of 7,000 students.

Planning and construction of both phases had to be carried out simultaneously if the deadlines were to be met. An additional difficulty for the planners was their need to know the ultimate uses for the buildings, with no academics there to tell them. In late 1987, when the Simon Kwan Associates design was selected, even Professor Woo was still in San Francisco.



The solution was hard work and sleepless nights for Professor Woo after the day's toil at his San Francisco State University job. With 19 diverse departments to deal with, he needed assistance, and this materialized in the form of a vast network of unpaid academic advisers from the wide variety of specialties that HKUST would focus on.

Nearly every evening from November 1987 until his return, the President-Designate and his wife Yvonne had to man the computer and the fax machine until 3am — 6pm Hong Kong time — dealing with queries. When the Hong Kong staff returned to work in the morning, the answers were there.

In keeping with the future style of HKUST, it was a tough regime that brought results. By August 1991, the University had completed the first phase of its campus — a paved piazza, a seven-storey atrium, a five-level library, offices and facilities, many of its classrooms and laboratories, multi-level car parking, staff quarters and hostels for students, and a number of its sports facilities.



There were some 1,500 rooms — all different — and Professor Jay-Chung Chen signed off on every one.

Phase Two, which provided the full complement of teaching and research laboratories, new classrooms, office space, more student and staff accommodation, and additional sports facilities, was ready for use ahead of schedule — by the end of 1992.

At the time, it was thought that the third phase, which had to be authorized for construction by the Hong Kong Government, would be ready by 1995, taking the University to an enrollment of 10,000 students by 1997. The Government later postponed this phase indefinitely.

Number Crunching

The construction of the campus brought other challenges. Hong Kong had never built a research university before and so, at the outset, it had been difficult to envisage what and how much was required.

The Hong Kong Government's initial order of cost, based on the building of the first phase of the then City Polytechnic in a well-developed part of town, had been put at HK\$1,620 million. It soon became clear that this was not a viable yardstick for a research university — with a large number of laboratories, to be built on a steep slope with no utilities, functioning roads, or sewage —

especially one dedicated to first-rate science and technology and set to expand to 7,000 students within a handful of years.

The speed of construction required and the very high inflation rate in Hong Kong at the time all added up. In 1990, after the design and scope of the campus had been finalized and when the Jockey Club had completed its cost estimate for the Government to submit to the Legislative Council, the amount became HK\$3,548 million.

The sum was unanimously approved by legislators as the official budget. When construction finished, the total cost was well below budget, at HK\$3,244 million, with a surplus of over HK\$300 million returned to the Hong Kong Government. Per square meter, the construction cost was comparable to, or below that of, the buildings of other local institutions around the same period.

Creating New Knowledge

A dynamic outlook, a group of accomplished and forward-looking academic leaders, and a captivating campus. HKUST had had a striking start-up, though the challenge to become a premier research university was only just beginning. Hundreds of strong academics had to be recruited for thousands of students, all in a few years.



The first encounter of the founding class of students during Orientation in September 1991.

"Out of 7,000 students, if 700 could think bold thoughts based on solid knowledge, if 70 of them dared to be innovative, eventually 7 of them would succeed in doing something truly revolutionary," says Professor Woo.

"When the breakthroughs come from these 7 people, 70 people will be there to appreciate those breakthroughs and take them forward. These 70 can lead 700 people to the academic promised land or to spin off new enterprises. Then 70,000 people will find job security and improve their quality of life. The long-term contributions of these 70,000 may well influence the future of all 7,000,000 people in Hong Kong."

The foundations were laid. Now it was time to go in search of the breakthroughs.