

## SELECTED MAJOR ACHIEVEMENTS

2000/01 HKUST's School of Business and Management was the only business school in Asia to have made the top-50 league in the *Financial Times* MBA 2001 rankings released on 22 January 2001. The School came first for the international experience offered by its MBA program and second for its international faculty. The School was among the newspaper's ranking of 75 top business schools in the world in 2000.

HKUST's successful fabrication of the world's smallest single-walled carbon nanotubes (0.4nm) was nominated as one of the "Top 10 International News of Scientific and Technological Advances" in 2000 by 485 fellows of the Chinese Academy of Engineering and the Chinese Academy of Sciences.

The invention of a new class of resonant sonic materials was selected by *PhysicsWeb* as among the 10 highlights of new discoveries in physics and astronomy in 2000.

The successful culture of *Cordyceps sinensis* ( ) in laboratory would greatly reduce the cost of production of this rare and expensive traditional Chinese medicine.

The Business School became the first school in Asia to receive full accreditation (EQUIS) from the European Foundation for Management Development (EFMD), the leading management organization in Europe.

HKUST has consistently maintained its leading position among local universities in the success rate and funding per faculty member in the Competitive Earmarked Research Grants program administered by the Research Grants Council.

1999/2000 A fast motion estimation algorithm was recognized as a new standard for MPEG-4, the international standard for multimedia applications.

HKUST was ranked the top university in East Asia in terms of research productivity in economics by the US professional journal *Economic Inquiry* (October 1999 issue).

The School of Business and Management was one of the first two Asian business schools to receive full accreditation from the International Association for Management Education (formerly AACSB).

Dr Qiang Du (Mathematics) was appointed Chief Scientist for the National "973" project on Large-scale Scientific Computation Research by the Ministry of Science and Technology. Dr Jun Gu (Computer Science) was selected Chief Scientist to lead a nationwide IT project under the same program. They are the only two scientists thus appointed outside the Chinese Mainland.

Novel signaling mechanisms in the nervous system were discovered — an important breakthrough to the development of potential therapeutic compounds for the treatment of neurological disorders.

Direct observation of the dynamic growth processes of polymer crystallization was made using atomic force microscopy.

Synthesis of a series of novel dimers linking Tacrine to a simple and inexpensive portion of the Huperzine A molecule could lead to more effective treatment for Alzheimer's disease.

An active matrix organic light emitting diode (OLED) display was successfully developed using low temperature polycrystalline silicon technology.

HKUST's Cyberspace Center unveiled the first Open and Secure Mobile E-commerce Infrastructure.

Scholars in the School of Humanities and Social Science began collaboration with the Chinese Academy of Social Sciences in the design of a database of lexical items from Sino-Tibetan languages.

1998/99 A new type of photonic crystal with band gap and tunable crystal structure was discovered, which opened up a new research field and promises many applications such as miniaturized infrared laser equipment.

An enabling genechip technology was developed for the identification, quality assurance, and standardization of traditional herbal medicines.

Research on porous metal-organic polymers has led to breakthroughs in the ability to engineer thermal stability, pore shape, size, and functionality in these materials.

The South China Research Center of the Division of Humanities has contributed to the study and archiving of Hong Kong history and culture since its inception in 1997. Beginning from December 1998, the Center offered an 18-month program "Understanding Hong Kong History, Culture, and Society" to equip secondary school teachers with the interdisciplinary resources to teach Hong Kong history in the secondary school curriculum.

- 1997/98 Novel forms of cell cycle inhibitors in neoplastic cells were discovered — an important step towards understanding the development of cancer cells.

A new class of growth regulator affecting plant growth and development was identified.

A cost-effective process was developed to mass-produce hEGF, a skin-growth protein that could help heal burns, wounds, and ulcers.

- 1996/97 The analytically defined Seiberg-Witten invariant was identified with the topologically defined Milnor torsion for three-dimensional manifolds — a major contribution to low-dimensional topology.

Room-temperature ultraviolet lasing in thin films of zinc oxide was demonstrated for the first time.

Improvement in electrorheological fluids greatly enhanced the performance and stability of the substance, which could be used in shock absorbers, clutches, and robotics.

A new, light-weight composite material was synthesized from bamboo fibers blended with polypropylene.

A thin-film transistor technology was developed, which allowed an entire display system to be built on glass.

The combination of complex carbon atoms (Fullerene) with glasses and plastics was found to offer effective protection from harmful rays.

- 1995/96 An important receptor at the neuromuscular junction was identified — a major breakthrough in neurobiology.

Highly efficient light-emitting thin films capable of covering nearly the entire visible spectrum were fabricated.

New drug delivery techniques involving slow release of oral medicines and inhalation technologies were developed to improve the lives of patients with chronic conditions.

Innovative technologies were developed to reduce hazardous industrial waste from bleaching, dyeing, printing, and electroplating to near zero.

A new technology promised the recycling of biodegradable plastics from municipal sludge.

- 1994/95 Hong Kong SuperNet, a spin-off from HKUST and the first licensed Internet Service Provider in Hong Kong, was rated "the best Internet provider in Asia" by the prestigious Singapore National Computer Board.

The Institute for Environmental Studies collaborated with the US National Center for Atmospheric Research in carrying out the first air quality measurements ever taken over Hong Kong.

A new world record was set for the shortest wavelength of deep ultraviolet laser radiation (184.7nm) generated from a nonlinear optical crystal by an HKUST professor and his Mainland counterpart.

Researchers succeeded in enhancing a traditional Chinese medical formula to produce a more potent anti-oxidant, expected to be beneficial in the prevention and treatment of coronary heart disease.

- 1993/94 HKUST was granted its first patent for an innovative technique of producing diamond film from polymer sources through laser deposition.

The University won a HK\$118.7 million government contract to develop the Operational Windshear Warning System for Hong Kong's new airport at Chek Lap Kok with support from US colleagues. The project was completed on 1 July 1997.

- 1992/93 The first thin film crystal in Hong Kong was created using the only molecular beam epitaxial system in the region.

- 1991/92 The Hong Kong University of Science and Technology — the Third University in Hong Kong — was opened in October 1991.