

For immediate release  
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## **PATENTS AWARDED FOR RESEARCH AT HKUST**

Patents recognizing new discoveries in the fields of microelectronics and biotechnology have been granted to the Hong Kong University of Science and Technology by the U.S. Patent Office.

In microelectronics, a research team consisting of Dr Jack Lau, Dr Christopher C. T. Nguyen, Prof. Ping Ko and Dr Philip Chan of the Department of Electrical and Electronic Engineering has invented a new magnetic sensor that can improve the performance, as well as lower the cost, of magnetic recording devices such as tape recorders and computer hard disks.

In biotechnology, a new drug delivery technique developed by Prof. Jeffrey Wong of the Department of Biochemistry has the potential to improve the lives of patients with chronic conditions such as diabetes.

According to Dr Lau, "Our new sensor is designed using material that is compatible with silicon-based circuits, so potentially they can be integrated into one component. The advantage of integration is lower manufacturing costs, as well as more sensitive and reliable components."

This research project was initiated by Dr Lau for his doctoral thesis at HKUST. For his work on it he received the very first PhD to be conferred by the new university.

Prof. Wong, director of HKUST's Drug Delivery Technology Centre, worked with Dr S. C. Tam of the Chinese University of Hong Kong to find a way to deliver protein and peptide drugs into the bloodstream via the lungs. "This route of drug delivery has real potential for the treatment of chronic conditions such as diabetes," he explains. "Many diabetic patients have to give themselves daily injections of the protein hormone insulin to control their diabetes. Our new delivery system, which involves inhaling the drug in a mist form, could potentially replace these injections in some patients."

"It is significant that these patents are in the areas of biotechnology and microelectronics, key technologies on which the economic growth of industrialized nations in the 21st Century will depend," says Prof. Eugene Wong, Vice-President for Research and Development at HKUST.

"If Hong Kong is to rebuild a manufacturing base with high value-added products, these are areas in which local expertise and locally generated technologies must be developed. HKUST can be relied on to contribute to this development."

### Note to Editors:

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