

# Centre for Infection Control opens

The Faculty of Health and Social Sciences celebrated the official opening of its Centre for Infection Control in May. The new facility aims to be a breeding ground for evidence-based practice in infection control and a resource centre for the medical and healthcare profession.

**E**quipped with state-of-the-art facilities, the Centre will enable staff and students to conduct research to detect and investigate health problems, implement prevention and infection control strategies, promote healthy behaviours and provide training.

The Centre features a host of innovative research projects. This include a novel hand washing surveillance system using Radio Frequency Identification (RFID) technology, a personal chamber for infection control in hospital settings, and a model for immunized



*Important guests from international and national health organizations and authorities were invited to officiate at the opening of the Centre.*

building. In 2004, the project "Hospital bed for SARS ward with special air curtain protection for medical workers" won the Bronze Award in the Fifth China International Invention Expo. ❖



*Prof. Thomas Wong (right), Dean of the Faculty, introduces research projects of the Centre to Ms Susie Ho, Deputy Secretary for Health, Welfare and Food (Health), HKSAR Government.*

## World's first soft mannequin

**Making use of the 3D scanned data of live model and structure of the human skeleton, researchers of the Institute of Textiles and Clothing (ITC) have successfully developed the world's first soft mannequin.**

*This soft mannequin was the brainchild of a five-person team led by Dr Winnie Yu, Associate Professor of ITC.*



**A**part from fitting, exhibit and comfort test for bras, panties or girdles, the soft mannequin can be used in the evaluation of medical pressure garments or training of intimate apparel for male learners.

Comparable to a live female model, the

mannequin is made of a full size artificial skeleton comprising a spine, rib cage, pelvis and thigh bones. Its outer shell is made from polyurethane foam which simulates the resilience of the human body. The stretch fabric applied on the cover simulates the human skin. A unique feature of the mannequin is its silicon-filled breasts which can be changed to different sizes for demonstration and fitting purposes. A patent application has been filed for the invention in the US.

The soft mannequin is one of the University's many ongoing initiatives in advancing the intimate apparel industry. Starting this September, PolyU will offer Asia Pacific's *first* BA in Intimate Apparel programme to offer professional training in the design and production of intimate apparel. ❖

## Vice President speaks on quality assurance in higher education

At the invitation of the European Universities Association (EUA), Prof. Leung Tin-pui, Vice President (Student Development), shared his insights at the EUA Convention held in Glasgow from 30 March to 2 April. The event drew together over 600 participants from some 40 countries.

In his presentation, Prof. Leung shed light on the challenges faced by tertiary institutions. With reference to his observations about developments in Europe, Prof. Leung discussed the recent developments of tertiary education in the Chinese mainland and HKSAR. He said it was necessary to establish a broad and efficient framework for academic quality management and accreditation in Europe. ❖



*Prof. Leung says it is important for Hong Kong to be aware of the reforms in Europe and to learn from their good practices.*

## Forums in Shenzhen and Xi'an promote good business practices

President Prof. Poon Chung-kwong was in the Chinese mainland in April to speak at two major forums to share his views on issues that are key to upgrading business practices on the mainland.

The first one was the China Venture Capital Forum, hosted in Shenzhen by the China Venture Capital Research Institute, an institute co-founded by PolyU. The event attracted more than 300 venture capitalists



*President greets Prof. Cheng Siwei, Vice-Chairman of the Standing Committee of the National People's Congress (right) at the China Venture Capital Forum.*



*Officiating guests at CEO Forum: (First row, 8th from left) Managing Director of the Gallup Organization Guo Xin; Prof. Wang Zhongmin, Director of Xi'an Tongli International College; President of Xi'an-based SeaStar Group Rong Hai; Prof. Poon Chung-Kwong, President of PolyU; Prof. Leslie de Chernatony, Professor of University of Birmingham.*

from around the world. For the first time, special sessions with respect to different geographical locations were set up to encourage participants of the same region to meet and discuss their common issues of concern.

The other was the CEO Forum held in Xi'an which focused on the management

of successful brands. This annual event was organized by PolyU's Graduate School of Business for CEOs and learners in the mainland.

Activities like this encourage students to learn from both academic and practical perspectives, distinguishing PolyU's business programmes from others in the market. ❖

# 中、港、美科學家攜手合作 理大獲邀參與研究保護兵馬俑

**舉**世驚歎的兵馬俑是中國史上第一個皇帝陵園，除列入「世界文化遺產」，更被譽為「世界第八大奇跡」。然而，隨著內地工業迅速發展，空氣污染問題日益嚴重，有害氣體及粉塵顆粒侵蝕文物，導致此珍貴文化古跡正受到被破壞的威脅。

有見及此，中國科學院地球環境研究所與秦始皇兵馬俑博物館攜手合作，並邀請香港理工大學和美國沙漠研究所共同開展為期兩年的「西安秦兵馬俑博物館室內大氣污染特徵」研究，投入經費達人民幣二百萬元。這是理大首次參與國內大型博物館室內空氣污染物研究項目。有關單位已於三月在西安簽訂合作協議，並進行連串研究工作，包括觀測秦俑館室內大氣變化，全面評估污染物對該歷史文物的影響。

參與該項研究的理大專家包括土木及結構工程學系系主任兼講座教授李毓湘教授、副教授李順誠博士及何建輝博士。他們會以環境測試箱來研究不同污染物在不同濕度和溫度等環境下，對兵馬俑表面腐蝕速度及彩繪顏料的影響，藉以找出關鍵污染物質及不利於文物保護的環境因素。

此外，科學家將採用先進的儀器設備，觀測及分析室內大氣的微氣候，深入研究腐蝕性氣體、大氣氣溶膠及降塵的變

化規律及化學反應，從而掌握污染物對文物的腐蝕機理，以便尋求對策，有效保護兵馬俑，並從當前的搶救性保護轉變為預防性保護。

除了攜手合作保護秦俑，理大及其他

合作單位亦希望透過該項目，培養一支專門從事文物環境研究的隊伍、建立文物環境實驗室，期望為防治中國博物館大氣污染提供具前瞻性的典範，為將來的研究提供科學理據與借鑒。



**At the signing ceremony: (from left) Prof. Ko Jan-ming, Vice President; Prof. An Zhisheng, Fellow of Chinese Academy of Sciences; Mr Wu Yongqi, Director of the Xi'an Museum; and Dr Stephen G. Wells, President of Desert Research Institute.**

## International coalition to preserve terra-cotta warriors

**A**n international team comprising scientists from the mainland, Hong Kong and the US are embarking on a two-year research project on the preservation of the terra-cotta army in Xi'an, one of the world's greatest archeological treasures.

At the invitation of the Institute of Earth Environment of the Chinese Academy of Sciences and the Museum, scientists at PolyU and the US Desert Research Institute will join forces to preserve the ancient army by tackling the indoor pollution problem of the Emperor Qin's Terra-cotta Warriors and Horses Museum in Xi'an, Shaanxi province. The four parties signed a collaborative agreement on the RMB2 million yuan project in Xi'an in March.

Known as the "Eighth Wonder of the World", the life-size terra-cotta warriors and horses were built under the orders of the first emperor of Qin dynasty Qinshihuang to guard his tomb and protect him in his afterlife. Having been buried for more than 2,000 years, the massive clay statues have been displayed in museum since its discovery in 1974.

PolyU has sent forth scientists from the Department of Civil and Structural Engineering to participate in the research, including Chair Professor and Head Prof. Li Yok-sheung, Associate Professor Dr Lee Shun-cheng and Postdoctoral Fellow Dr Ho Kin-fai. They will study the impact of indoor air pollution on the terra-cotta statues and suggest appropriate control measures.



# New treatment for broken wrists

**P**olyU experts have developed a new type of wrist fracture splint which provides an alternative to conventional plaster. The device, characterised by its flexibility, can help shorten the healing time for broken wrists.

Known as the "Wrist Fracture Healing System", the innovative device is jointly developed by Dr Guo Xia, Assistant Professor of the Department of Rehabilitation Sciences (RS), and Dr Man Hau-chung, Associate Professor of the Department of Industrial and Systems Engineering (ISE).

Incorporating traditional Chinese splint techniques, the new device allows greater movement of the wrist in various directions with the installation of a universal joint. Designed with evenly spaced-out holes, the device makes it easier for patients to receive ultrasonic, magnetic and other physical healing interventions to achieve a speedy recovery.

According to the researchers, this is a major improvement for wrist fracture treatment as compared to the rigid form of plaster cast, especially for elderly patients who normally take more time to recover.

Unlike conventional calcium-rich plaster cast, the splint is made of X-ray penetrable polymer composite material which facilitates X-ray imaging of bones for monitoring patients' progress without having to break the plaster cast.

Based on this newly developed splint,



*In partnership: (from right) Dr Guo Xia; Prof. Christina Hui-Chan, Head of RS; Mr Wang Xiao-chun, Managing Director of Guizhou Tongjitang; Dr Lui Sun-wing, PolyU Vice President; Dr Man Hau-chung; and Prof. W.B. Lee, Head of ISE.*

the University entered into a licensing agreement with Guizhou Tongjitang Medicine Co. Ltd., authorizing the company to produce and launch the medical device on the mainland. The company will invest RMB5 million yuan for the further development and promotion of the device. A patent has been filed for this important breakthrough.

It is estimated that nearly 25 million Chinese aged over 50 are suffering from wrist fractures each year. This phenomenon is more severe in the northern part of China, where the elderly are prone to fall on the slippery, snowy ground in winter. With the

support of two mainland hospitals, the device will be put to clinical trial and launched in the China market by the end of 2005. ♦

*The new device uses a forearm clamp to fix the fracture while allowing hand movements.*



# A close look at old buildings and green buildings

**B**acked by funding support from the Construction Industry Institute-Hong Kong (CII-HK), PolyU researchers are embarking on the following two major multi-disciplinary projects:

## Repair, Maintenance and Sustainability of the Ageing Residential Building Stock in Hong Kong

Focusing on two sample 30-40 year-old residential buildings in Kwai Chung and Shum Shui Po, the \$1.3 million project will span 18 months and cover various legal, social, economic, technical and environmental issues related to the upkeep of the ageing buildings. Apart from analysing the timing and costs of the remedial work needed for the old buildings, the study will look into its social implications for residents in terms of financial concerns and their standard and style of living.

The 25-strong research team is led by Prof. Andrew Baldwin, Chair Professor of Building and Head of the Department of Building and Real Estate, and coordinated by Associate Head Prof. Francis Wong Kwan-wah. The team also integrates expertise from the University's departments of Applied Social Sciences, Building Services Engineering, and Civil and Structural Engineering.

## Costs and Financial Benefits of Undertaking Green Building Assessments

The first stage of the nine-month study will provide independent data to reduce the uncertainty about the cost related to the sustainability of green buildings. The analysis will enable developers to see more clearly the tangible benefits of having their property rated as green buildings.

The research team is led by Prof. John Burnett, Head and Chair Professor of Department of Building Services Engineering, with the support of Dr Chau Chi-kwan and Dr Lee Wai-ling; and Mr Kevin Edmunds, Deputy Director of Business Environmental Council. ❖



The research agreement signing is witnessed by Mr Marco Wu Moon-hoi, Director of Buildings of the HKSAR Government, who is flanked by Mr Michael Arnold, Executive Board Member of CII-HK (right) and Prof. Ko Jan-ming.



Sir David Akers-Jones, Chairman of CII-HK (second from left); and Prof. Ko Jan-ming, PolyU Vice President and Faculty Dean, signed the research agreement in the presence of Mr Leung Chin-man, HKSAR's Permanent Secretary for Housing, Planning and Lands (Housing) (centre).

# Conferences highlights

## First International Symposium on Functional Foods

Themed “The Future of Asian Health”, the symposium brought together 150 participants from more than 10 countries and regions to the University. The two-day event was organized by the Department of Applied Biology and Chemical Technology and co-sponsored by the Hong Kong Science and Technology Park and Han Seng Tang. The University’s Distinguished Professor of Pharmaceutical Sciences Prof. Georges M. Halpern delivered the closing remarks entitled “The Case for pleasure”.



## Seminar on Urban Hazard Mitigation

About 80 participants attended this seminar, organized by the Faculty of Construction and Land Use and the Research Centre for Urban Hazards Mitigation, to examine how to minimize the damages caused by natural and man-made hazards in urban areas with high concentrations of populations and infrastructure. Ir Lo Yiu-ching, Permanent Secretary for the Environment, Transport and Works (Works) of the HKSAR Government, delivered the concluding remarks at the seminar.



## World congress on radiography

The 13th World Congress of the International Society of Radiographers and Radiological Technologists, sponsored by PolyU, was held for the first time in Hong Kong in February. Officiated at by Dr York Chow, the HKSAR’s Secretary for Health, Welfare and Food, the biennial conference brought together over 600 radiography professionals from all over the world.

## Conference on radiation education

The Department of Optometry and Radiography organized the Australasian Association of Educators in Medical Radiation Sciences Conference in February. The biennial conference facilitated discussions on radiation education and work integrated education. The two-day event was well attended by delegates from Australia, New Zealand and South Africa.

