

Heading for the Martian moon Phobos

The President posing with the project team: (From right) Prof. Yung, Prof. Poon, Dr Ng and Dr Wong.



Following the signing of a space collaboration agreement between China and Russia, PolyU scientists will design innovative space tools for their joint mission to Mars on board a spacecraft in 2009.

The aerospace authorities of the two nations have agreed to join hands in the “Phobos-Grunt” project to probe Mars and its innermost moon Phobos. The signing of the agreement in Moscow on 26 March was witnessed by Chinese President Hu Jintao and Russian President Vladimir Putin during Mr Hu’s official visit to Russia.

“The University is proud to play a role in this project, and will be ready to lend our full support to this historic initiative,” said PolyU President Prof. Poon Chung-kwong, while acknowledging the Hong Kong team’s unremitting efforts and impressive track record in developing space tools over the past decade.

Under the new project, Russia will launch an explorer carrying a lander with Chinese-made device to collect samples of Phobos “grunt”, meaning “soil” in Russian. This sophisticated device, known as the “Soil Preparation System”, is being developed by the PolyU research team. At the helm of this team are Dr Ng Tze-chuen, an independent dentist and PolyU Fellow, and Prof. Yung Kai-leung, Associate Head of the Department of Industrial and Systems Engineering. They are supported by engineers at PolyU’s Industrial Centre under the directorship of Dr Chris Wong Ho-ching.

The System, which weighs merely 230 grams and measures slightly larger than a cigarette pack, will be capable of grinding and sifting Phobos rock to the size of less than 1mm in diameter for in situ analysis by the Lander. This procedure is considered a crucial step in understanding the evolution of the universe and in



Prototype of the Soil Preparation System

searching for possible signs of life on the planet Mars.

The University has previously developed space tools for different space agencies over the years. In 2003, PolyU scientists developed the Mars Rock Corer which was carried on board the Beagle 2 Lander in a spacecraft of the European Space Agency’s Mars Express Mission. Unfortunately, the Beagle 2 Lander was reported to have crashed on the Martian surface.

The Mars Rock Corer has in fact evolved from another space tool, called the Space Holinser Forceps. The Forceps, which function like a pair of dental forceps, were developed by PolyU engineers from a concept initiated by Dr Ng.

The idea was further developed into the Space Forceps System which consists of 70 inter-connectable components for use by astronauts in space. In 1995, four sets of Holinser Forceps were ordered by the Russian Space Agency for use by astronauts in precision soldering at the MIR Space Station.

The Mars Rock Corer and Space Holinser Forceps were produced at the University’s Industrial Centre. ❖



Mars and Phobos

Image of Lander in Phobos-Grunt Mission (provided by the Russian Government)



Commencement Ceremony of the 70th Anniversary Celebrations

建校七十周年紀念活動啟動儀式



Officiating at the ceremony are (from left): Mr Barry Tsang, President of the Postgraduate Association; Dr Ng Tat-lun, the then President of Federation of PolyU Alumni Associations; Mr Alexander Tzang, Deputy President; Dr Allen Lee, former Council Chairman of the Hong Kong Polytechnic; Mr Victor Lo; Dr Henry Tang; Prof. Poon; Dr Gillian Humphreys, Chairman of the Staff Association; and Mr Ross Ng, Immediate Past President of the Students' Union.



Congratulations & Celebrations



On 20 March, the University officially kicked off its 70th anniversary celebrations at a special ceremony officiated at by the HKSAR Financial Secretary Dr Henry Tang, University Council Chairman Mr Victor Lo and President Prof. Poon Chung-kwong. PolyU is staging a series of celebratory activities till the end of this year, with the University Chancellor and HKSAR Chief Executive Dr Donald Tsang as the Honorary Patron.

To showcase the University's illustrious history and achievements, an Exhibition on PolyU Development has also been staged, and will last until December.

Following the ceremony was the opening of the **"Global Connection Carnival"**, another celebratory event launched to highlight PolyU's internationalization. With the support of 13 Consulate Generals, booths featuring customs, handicrafts, food and exhibits of different countries were set up, providing a good opportunity for students to learn more about different cultures.





Other activities include photo competition, alumni dinner and forums on the mainland, presentations of the Outstanding PolyU Alumni Awards and Bauhinia Cup Outstanding Entrepreneur Awards, lectures by Nobel laureates, conferences and exhibitions. The first-ever **PolyU Alumni Convention**, themed “Globalization & the China Boom: A Journey of Networking and Opportunities”, will also be held at the Sofitel Xanadu Resort in **Hangzhou on 24 November**. The Convention, comprising a high-level forum followed by a gala dinner, will provide an invaluable opportunity to unite the University’s graduates particularly those from the mainland. The event will be jointly organized by the Alumni Affairs and Development Office and Federation of PolyU Alumni Associations.

和諧團結創 旗 蹟 Flags of Harmony and Unity

Among the vast array of activities, under the spotlight is **“Flags of Harmony and Unity”**, a key university-wide celebration to be held at the **Siu Sai Wan Sports Ground on 23 September (Sunday)**. It is also an “Accredited Event” of the celebrations of the 10th Anniversary of the establishment of the HKSAR. The University will assemble more than 20,000 participants to form a giant human National Flag of the motherland and the Regional Flag of the HKSAR. The event aims to demonstrate the unity and vitality of the community, raise fund to support the University’s development, education for children on the mainland and local elderly services, and set a new world record.

Registration of the event has started. All PolyU students, staff, alumni and friends are encouraged to register online at www.polyu.edu.hk/flags. Interested parties are also welcome to register via their associated PolyU members. ❖



**Let's make history
together!**