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E-News June 2010

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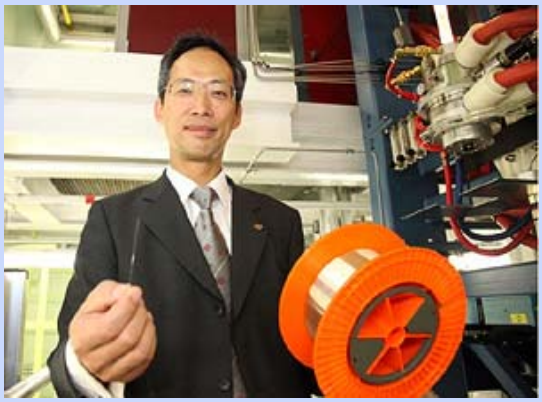
Ir Professor Alexander Wai Succeeds as the Vice President (Research Development)



The University has announced the appointment of Ir Professor Alexander Wai Ping-kong, Associate Vice President and Dean of the Faculty of Engineering to be the Vice President (Research Development) with effect from 1 July 2010.

Joining PolyU for over a decade, Professor Wai has made significant contributions in his various leading positions. He has been the Professor and Head of Department of the Electronic & Information Engineering in 2002. In 2005, he was promoted to Chair Professor of Optical Communications and Dean of the Faculty of Engineering and has also served as Associate Vice President since 2008. Professor Wai's research focus is fiber optic communication and future optical network technology including all-optical packet-switching. He has received three United States patents on his inventions in optical packet-switching technologies, has over 130 refereed international journal publications, and was elected to the rank of Fellow by Optical Society of America in 2009 as recognition of his contribution in optical communication and optical networks.

In his capacity as Dean of the Engineering Faculty, Professor Wai has made significant contribution to the development of outcome-based education and 4-year curriculum by launching a number of initiatives which carry far-reaching impact on the enhancement of teaching and learning practices and quality teaching ethos. Under his leadership, the world ranking of PolyU's Engineering and Information Technology* has risen to 91 according to Times Higher Education Supplement in 2009.

** The field "Engineering and IT" covers not just the Faculty of Engineering but also other units across PolyU working in the engineering and IT area.*

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Engineering Faculty Top-notch Expert Involved in PolyU's Collaboration with China Academy of Space Technology on Lunar Exploration Programme

PolyU enters into collaboration with China Academy of Space Technology on China 's lunar exploration programme.

A senior delegation led by Professor Timothy W. Tong, President of The Hong Kong Polytechnic University, has recently visited Beijing to explore collaborations with the China Academy of Space Technology (CAST). The University will send forth its top-notch expert, Professor Yung Kai-leung, Associate Head of Department of Industrial & Systems Engineering, to lead and work closely with CAST experts on the development of a "Camera Pointing System".

With Professor Tong witnessing the event, CAST Vice President Mr Dai Shou-lun and PolyU Vice President Professor Ko Jan-ming signed an agreement to formalise research collaboration between two parties relating to China's lunar exploration programme.

Professor Yung has a wealth of experience in developing state-of-the-art space tools, including the "Mars Rock Corer" for the European Space Agency's Mars Express Mission in 2003 and "Space Holinser Forceps" for the former MIR Space Station. He is also responsible for developing the "Soil Preparation System" for the Sino-Russian Space Mission "Phobos Grunt" to be launched in 2011.

The "Camera Pointing System" is a sophisticated tool capable of deploying a camera and controlling its rotational and tilting movement with precision. The camera serves the dual function of image-capturing and surveillance. The system is designed to operate under extreme environment with a high degree of adaptability.

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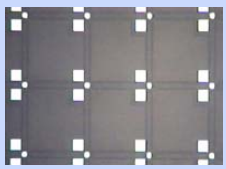
US Patent Granted for Ultraviolet Detector



The GaN-based UV detectors.

A US patent has recently been granted to an Ultraviolet Detector developed by Professor Charles Surya and Dr Patrick Fong of the Department of Electronic & Information Engineering.

GaN is deposited on the sapphire substrate using a novel technique. The double buffer layer structure developed has led to significant improvement in the properties of the devices. The double buffer layer structure consists of a conventional high temperature AlN buffer layer and in additional, an intermediate temperature GaN buffer layer is also deposited on top of this AlN layer. The team has performed systematic investigation on the optimisation of the deposition temperature and on the thickness of the intermediate temperature GaN buffer layer, and has successfully shown that the technique results in significant improvements in the optoelectronic properties as well as on the reliability of the devices.

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Successful Bid of Innovation and Technology Fund Project

Professor Jian Lu, Chair Professor and Head of Department of Mechanical Engineering, recently won a funding of HK$5 million from the Innovation and Technology Fund (ITF), in affiliation with Nano and Advanced Materials Institute Ltd (NAMI) and several industry partners (Baosteel, Fong's National Engineering Company Limited, Dongguan Kewei Medical Company Limited and Xi De Sheng Carbon Fiber Technology Company Limited) to advance the study and development of Structural Steel with High Density Nano/Submicron Twin for Lightweight Products.

The objective of this new project is to develop a high strength and high ductility steel with a high density twinned structure to meet the demand of lightweight design, especially for land transportation (i.e. car, bus, train), or for textiles, biomedical and sports industries. Furthermore, tests, simulations and database would be comprehensively analysed for the strength, safety, life and all other engineering considerations in the product design as the material with nanotwinned structure is new and special. The study will provide perspective for the future development of those industries and applications in which the structure strength and toughness would be critical and the application of new material would be a major topic. As the new materials will provide exceptional high strength and very good ductility, these new materials would be integrated in real life applications which can be adopted in some key components, such as roof and crash box of the car, sports goods, new energy,

and wind rotor protection etc.

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Integrated Technologies and Applications Enhance Efficiency of Land Transportation

The Department of Industrial & Systems Engineering (ISE) has developed an intelligent eSecurity device (eSeal) with related software modules and middleware featuring the integration of various logistics enabling technologies (i.e. RFID). The device can be used in different applications especially in physical asset, container and fleet management. The software is capable of connecting with public information sharing platforms such as OBTIS, ROCARS and ezTRACK to share and integrate real time logistics and physical asset information.

To introduce this advanced technology application, ISE will hold a seminar on 8 July 2010. Experts and professionals from industry will gather and share the latest developments of the technologies and applications.

For more details about eSeal and the upcoming Seminar, please visit: http://www.rfid.ise.polyu.edu.hk/eseal/

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Award for Teaching and Learning Innovation

Professor Eric Tsui (right) receiving the honour from Professor Walter Yuen, Vice President (Academic Development).

Congratulations to Professor Eric Tsui of the Department of Industrial & Systems Engineering scoring the 2010 Teaching and Learning Innovation Award. The award aims at encouraging teaching staff to adopt blended teaching to inspire and motivate students' learning. Professor Tsui has been designing and practising blended learning by leveraging Web 2.0 tools (for example, Podcasts, Wikis, social bookmarking, RSS) and scenarios to achieve participative and sustainable individual learning environment. Professor Tsui shares his honour with his team from HKCyberU platform, Knowledge Management Research Centre, and Educational Development Centre.

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Graduate Snaps Gold in Hong Kong ICT Award

Mr Lau Hiu-Fung, graduate of BSc in Computing, has won the Gold Award of the category "Best Innovative and Research (College and Undergraduates)" at Hong Kong ICT (Information and Communications Technology) Awards 2009. The annual Hong Kong ICT Award is a territory-wide event for the sector commending excellent achievements on innovative and creative ICT solutions. A prize presentation ceremony was held recently. Mr Lau's innovative application on "RFID / SMS-based Flight Information and Advertisement System" won the honour amongst keen competitions. The proposed system features an intelligent computing algorithm which allows flight passengers' identities and information to be processed through the RFID tag. Applications can be extended to shopping malls, hospitals or railway stations etc.

At the Hong Kong ICT Awards 2009 Presentation Ceremony, Hiu-Fung (central) received the honour and congratulations from (3rd from left) Mrs Rita Lau, JP, Secretary for Commerce and Economic Development, HKSAR Government; Prof Timothy Tong, President of

PolyU; Mr Jeremy Godfrey, Government Chief Information Officer, HKSAR Government; and (2nd from right), Mr Duncan Pescod, JP, Permanent Secretary for Commerce and Economic Development, HKSAR Government and Dr Winnie Tang, JP, President, Internet Professional Association.

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Engineering Talents Unleash Creativity in Robotic Competition

Dr Alan Lam, Founder of Sengital Ltd (1st from right) presented the prize to the EIE winning team of the Interactive Game Design Competition.

The Seventh Robotic Project Competition and the Interactive Game Design Competition held by the Department of Electronic & Information Engineering (EIE) on PolyU campus on 9 June 2010 saw a vigorous display of engineering talents in robot-related activities and interactive game designs.

The fun-filled event consisted of two parts. In the Robotic Project Competition (the first part), nine teams of year-2 students were required to compose and programme an autonomous machine, the "RoboGolfer", to search for randomly placed ping pong balls in the game field and shoot them into cylindrical buckets. The championship went to the team whose RoboGolfer successfully shot more balls into the buckets within a time limit. The second part, an Interactive Game Design Competition sponsored by Sengital Limited, required students to design computer games that combined 3D graphics and live video. With students wearing a head mount display to be fully immersed in the game environment, the advanced motion tracking system enables players to control the movement of the game characters with their body motions.

The competitions are part of EIE's effort to provide outcome-based learning experience to students through integrated and innovative projects. Students are required to apply knowledge learned in different subject areas to address practical problems.

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Headstart Planning for the New 4-year Curriculum

The Department of Electronic & Information Engineering (EIE) conducted a departmental retreat from 17 to 19 May 2010 to get itself prepared for a host of initiatives including the development of the new 4-year degree curriculum, the upcoming quality assurance audit, teaching methodologies under outcome-based education, and the future direction of self-financed programmes etc. Guest speakers from the Sun Yat-sen University, China, were invited to join and exchange experience. The University is in partnership with EIE on a new top-up degree programme BEng(Hons) in Electronic Engineering planned to be offered in 2011/12.

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Faculty of Engineering Website Gets a Facelift

We are pleased to announce the launch of a brand new website for the Faculty of Engineering. The new website provides a one-click access to the Faculty and its constituent departments, the academic programmes offered, research developments and the achievements of staff and students. It will be updated regularly to keep our readers abreast of the news and events of the Faculty.

Check out the Faculty's new website at www.polyu.edu.hk/feng.

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Admission for September 2010 Entry

Taught Postgraduate Programmes

Engineering Doctorate	工程學博士學位
Master of Science in Automotive Engineering Design	汽車工程設計理學碩士學位
Master of Science/Postgraduate Diploma in E-Commerce	電子商貿理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Electrical Engineering	電機工程學理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Electronic and Information Engineering	電子及資訊工程學理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Engineering Business Management/Manufacturing Systems Engineering	工程商業管理理學碩士學位/深造文憑/製造系統工程理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Industrial Logistics Systems	工業物流系統理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Information Systems	資訊系統理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Information Technology	資訊科技理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Integrated Engineering	綜合工程學理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Mechanical Engineering	機械工程學理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Software Technology	軟件科技理學碩士學位/深造文憑
Master of Science/Postgraduate Diploma in Technology Management	科技管理理學碩士學位/深造文憑

Undergraduate Programmes

Double Degree in Business Administration and Engineering	工商管理及工程學雙學位
Double Degree in Computing and Management More Info	電子計算及管理學雙學位
Bachelor of Arts (Honours) in Computing (Part-time)	電子計算(榮譽)文學士學位 (兼讀制)
Bachelor of Engineering	工學士學位
Bachelor of Engineering (Honours) in Electrical Engineering	電機工程學(榮譽)工學士學位
Bachelor of Engineering (Honours) in Electrical Engineering (Part-time)	電機工程學(榮譽)工學士學位 (兼讀制)
Bachelor of Engineering (Honours) in Industrial and Systems Engineering	工業及系統工程學(榮譽)工學士學位
Bachelor of Engineering (Honours) in Mechanical Engineering	機械工程學(榮譽)工學士學位
Bachelor of Engineering (Honours) in Mechanical Engineering (Part-time)	機械工程學(榮譽)工學士學位 (兼讀制)
Bachelor of Engineering (Honours) in Product Engineering with Marketing	產品工程兼市場學(榮譽)工學士學位
Bachelor of Engineering (Honours) in Product Engineering with Marketing (Part-time)	產品工程兼市場學(榮譽)工學士學位 (兼讀制)
Bachelor of Engineering (Honours) in Product Analysis and Engineering Design	產品分析及工程設計學(榮譽)工學士學位
Bachelor of Engineering (Honours) in Product Analysis and Engineering Design (Part-time)	產品分析及工程設計學(榮譽)工學士學位 (兼讀制)
Bachelor of Engineering (Honours) in Transportation Systems Engineering	運輸系統工程學(榮譽)工學士學位
Bachelor of Science (Honours) in Enterprise Engineering with Management	企業工程兼管理(榮譽)理學士學位
Bachelor of Science (Honours) in Industrial Quality Management (Part-time)	工業品質管理學(榮譽)理學士學位 (兼讀制)
Bachelor of Science (Honours) in Logistics Engineering and Management	物流工程及管理(榮譽)理學士學位

Higher Diploma Programmes

Higher Diploma in Electrical Engineering	電機工程學高級文憑
Higher Diploma in Electronic and Information Engineering	電子及資訊工程學高級文憑
Higher Diploma in Industrial and Systems Engineering	工業及系統工程學高級文憑

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Forthcoming Events

Information Seminar - MSc in Industrial Logistics Systems
26 June 2010, Saturday, 2:30pm - 4:30pm, CF 403

Seminar on Integrated Technologies and Applications to Enhance Competitiveness of Land Transportation
8 July 2010, Thursday, M1603, 16/F, Lee Ka Shing Tower
For registration, pls click here.

PolyU Engineering Summer Camp 2010
6 - 8 July 2010
Tel: 3400 3814 / denquiry@polyu.edu.hk

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