

Eyes on the Myopia Conference

More than 300 participants from 21 countries and territories joined together to attend the Ninth International Conference on Myopia, which was held in Hong Kong for the first time in mid-November. The function was co-hosted by the Zhongshan Ophthalmic Centre of the Zhongshan (Sun Yat-sen) University and PolyU.

Taking the opportunity of this International Conference, PolyU's Centre for Myopia Research revealed findings of recent surveys on myopia prevalence among children and effectiveness of Orthokeratology (Ortho-k) lenses.

Landmark study shows myopia prevalence among Chinese children

Headed by Associate Professor Dr Carly Lam, a PolyU research team has conducted a large-scale study on 1,078 school students, aged between 13 and 15, from three local and six international schools. Survey reveals that myopia is more prevalent among ethnic Chinese children, regardless of the variation in education curriculum.

Data indicates that the prevalence rate of myopia for children at international schools falls between 60 and 66 per cent; while the overall prevalence rate at local



From left: Dr Ada Cheng, Prof. Jian Ge, Prof. Maurice Yap, Dr E.K. Yeoh, Prof. Zhao Jialiang and Prof. George Woo officiate at the conference opening.

schools is significantly higher - between 85 and 88 per cent.

Detailed breakdown shows that among the international school students, prevalence of myopia is highest in the ethnic Chinese group (80 per cent); followed by mixed Chinese (65 per cent) and lowest in non-Chinese group (43 per cent).

Following the research, Dr Lam said a series of research initiatives were launched to track down the genetic origin as well as causative factors on the development of myopia among ethnic Chinese.

Ortho-k lenses prove effective

In another PolyU study on the use of overnight Ortho-k lens wear, Associate Professor Dr Pauline Cho and her team members confirmed that Orthokeratology could reduce myopia among children.

The year-long longitudinal study has been conducted among 54 subjects, including 33 myopic children at an average age of 10. The data gathered is compared to a control group of 33 myopic children wearing ordinary spectacles. Preliminary data indicates that the difference in mean myopia increase between children wearing Ortho-k lenses and those wearing spectacles is significant, implying that Ortho-k treatment is effective to slow down the progression of myopia.

Orthokeratology is the technique of reshaping the cornea using specially made contact lenses to reduce myopia. With good compliance, the lenses are proved safe in previous researches and also in this PolyU study. The study is on-going and myopia progression among these children will be monitored for another 12 months.



Dr Lam presents findings to media at a press conference.

Breaking new grounds in construction technology

Researchers of the Department of Civil and Structural Engineering have recently made great strides in advanced construction technology. Profile introduces some of their successful initiatives.

Eco-brick: building block of a greener future

Prof. Poon Chi-sun and his research team have successfully made use of recycled construction wastes to produce bricks and blocks that are able to absorb and remove air pollutants. So far, two patents have been registered for this breakthrough.

According to Prof. Poon, this breakthrough provided an environmentally friendly solution to the disposal of construction waste, which has constituted a large proportion - 44 per cent - of solid waste in Hong Kong.

The breakthrough is believed an option to alleviate the acute shortage of landfills and public filling areas in Hong Kong. Quoting government sources, Prof. Poon said the territory's public filling areas would be exhausted within two to four years and landfill in 10 years' time unless other solutions are found.

During the study, assistance was obtained from the Government's Civil Engineering Department and local blocks makers. Prof. Poon and his team have gone to the public filling areas and the former site of Kai Tak Airport to collect crushed debris and recycled aggregates. By combining the use of photo-catalysts and other chemicals with recycled aggregates, the team has also successfully enabled these bricks and blocks to absorb and remove pollutants in the air.



Prof. Poon says the bricks are now in use in the Oi Man Estate, Cheung Sha Wan Road, West Rail's Kam Tin Station and a primary school site in Yuen Long.

FRP Composites to enhance safety

Under the aegis of the same department, Prof. Teng Jin-guang and his team are studying the use of advanced fibre-reinforced polymer (FRP) composites as a new type of construction material. Their research has been honoured the Best Paper Award by the American Society of Civil Engineers.

Prof. Teng stated that FRP composites could be widely adopted in the construction industry like steel and concrete. In the construction of many important structures, FRP composites were even better than steel.

"FRP composites can be 10 times as strong as steel, yet only one-fourth of its weight. More importantly, FRP composites, which are formed by embedding continuous synthetic fibres in a resin matrix, are more durable and do not corrode like steel. These superb qualities can be exploited to achieve light, strong and durable structures – ideal materials for the next generation of bridge decks and cables," Prof. Teng said.

He added that FRP composites have been widely used as external bonded reinforcement for retrofitting deficient reinforced concrete structures in overseas countries and on the Chinese mainland, especially in areas exposed to the risk of earthquakes. He also believed that FRP composites would offer a cost-effective and durable solution to the seismic retrofitting of Hong Kong buildings, which have currently been ignored in local building industry.



Prof. Teng (right) and his co-researcher Mr Lam Lik have authored the world's first book on FRP-strengthened reinforced concrete structures.

Heads meet to discuss future of applied technology

The Seventh Annual General Meeting of the International Strategic Technology Alliance (ISTA) – a leading academic collaboration on advanced technology – was successfully held on PolyU campus during the period of 2 to 4 November.

A “Presidents’ Forum” was held for the first time this year to encourage top university personnel to meet and exchange information on the advances of applied technology and its prospect.

Initiated by PolyU, ISTA is an international alliance to unite major universities on the Chinese mainland, the United Kingdom and the United States to promote applied research initiatives and to commercialise potential research products on an international scale. The team effort provides a win-win situation for both tertiary institutions and the community at large.



Dr Lui Sun-wing (middle) and Mr Alexander Tzang Hing-chung (right) chair at the Annual General Meeting.



The “Presidents’ Forum” provides opportunity for academic elites to exchange ideas.

Currently, ISTA has 21 member institutions. Apart from PolyU (香港理工大學), other members are: Fudan University (復旦大學), Harbin Institute of Technology (哈爾濱工業大學), Huazhong University of Science and Technology (華中科技大學), Nanjing University (南京大學), Peking University (北京大學), Purdue University of the United States, Renmin University of China (中國人民大學), Shanghai Jiaotong University (上海交通大學), Sichuan University (四川大學), South China University of Technology (華南理工大學), Southeast University (東南大學), Tongji University (同濟大學), Tsinghua University (清華大學), University of Science and Technology of China (中國科學技術大學), University of Warwick of the United Kingdom, Wuhan University of Technology (武漢理工大學), Xi’an Jiaotong University (西安交通大學), Zhejiang University (浙江大學), Zhongshan (Sun Yat-sen) University (中山大學) and the newly joined member, Northwestern Polytechnical University (西北工業大學). ❖

校長論壇共商 應用科技未來

由理大倡議成立的國際應用科技開發協作網於十一月二日在理大校園舉辦第七次全體會員大會。今年，大會更首辦一個名為「產學研合作及產業化」的大學校長論壇。超過三十位來自各協作網成員大學的代表齊集理大，在科研項目開發、科技成果產業化、市場策略、產學研合作及未來應用科技發展等課題上進行討論及案例分享，與本地企業共商合作雙贏之道。 ❖



More than 30 representatives of 21 member institutions gather at PolyU.

Distinguished scholars shed light on PolyU

As part of the University's "Distinguished Chinese Visiting Scholars Scheme", seven scholars received honour from PolyU in late September.

The presentation ceremony was officiated at by Mr Ji Peiding, Commissioner of the Ministry of Foreign Affairs of the PRC in the HKSAR, joined by Prof. Poon Chung-kwong, PolyU President.

The seven distinguished scholars were all renowned intellectuals in China and were nominated by the University's academic departments, including: Prof. Wu Wenjun, Research Fellow of the Institute of Systems Science, Chinese Academy of Sciences; Prof. Xing Fuyi, Distinguished Professor, Central China Normal University; Prof. Yu Xuying, Professor of the College of Management, Xiamen University; Prof. Chen Yong, Research Professor, China Seismological Bureau; Prof. Cheng Jinpei, Vice Minister, Ministry of Science and Technology; Prof. Liu Yuanzhang, Research Professor of the Academy of Mathematics and Systems Science, Chinese Academy of Sciences; and Prof. Gu Yudong, Professor of Hand Surgery, Fudan University.

A series of public lectures and seminars were staged on the PolyU campus during the scholars' stay in Hong Kong. Topics mainly focused on their areas of expertise. The distinguished scholars had also met academic staff of PolyU to exchange ideas on a wide range of topics.



From left: Prof. Xing Fuyi, Prof. Yu Xuying, Prof. Chen Yong, Mr Ji, Prof. Poon, Prof. Cheng Jinpei and Prof. Gu Yudong at the ceremony.

傑出學人訪理大

本校於九月二十六日舉行典禮，表彰七位內地知名學者，榮獲二零零二年度傑出中國訪問學人計劃得主。中華人民共和國外交部駐香港特別行政區特派員吉佩定先生亦應邀與校長潘宗光教授一同擔任主禮嘉賓。

今年膺選參加該訪問計劃的七位學者為中科院系統科學研究所研究員吳文俊院士、華中師範大學資深教授邢福義教授、廈門大學管理學院教授余緒纓教授、中國地震局研究員陳顥院士、中國科學技術部副部長程津培院士、中科院數學與系統科學研究院研究員劉源張院士和復旦大學手外科教授顧玉東院士。

傑出中國訪問學人計劃膺選的學者分別由校內不同的學系提名。他們在訪港期間，將與理大各有關學院及學系的教職員交流學術研究心得，並主持公開講座及研討會。



Prof. Lee Wing-bun introduces the Digital Factory to scholars and their representatives.

From left: Dr Chen Gong-meng, Prof. Yu and Prof. Judy Tsui host a public seminar on the relationship between learning and moral character.