

ISSUE 1
2019-2020

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鼓掌創你程 指引青年前路

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CLAP for Youth on Career Roadmap

鼓掌創你程 指引青年前路

According to data released by the Census and Statistics Department in 2016, 3.8% of the youth population, or 29,780 youngsters, are not in employment or education. Assisting their integration to increase their participation in the community has become an important social issue. Through “Career and Life Adventure Planning Project for Youth” (CLAP), Professor Victor Wong Cheong-wing of the Department of Social Work at HKBU, and his team are providing guidance to young people on their development pathway.

根據統計處2016年數字，青年人口中的3.8%，即29,780人屬於「雙待」（待業及待學），如何協助他們投身社會成為重要社會問題。浸大社會工作系教授黃昌榮就透過「賽馬會鼓掌·創你程計劃」（CLAP），指引青年生涯發展。

CLAP for Youth@JC is Hong Kong's first cross-sectoral support platform that helps students and non-engaged youths navigate their futures. Supported by a HK\$500 million donation from The Hong Kong Jockey Club Charities Trust, the project was launched in May 2015, for a period of five years.

As the Principal Investigator of the Community-based Team, Prof Wong leads the HKBU team with a focus on helping people between 15 and 21 years of age who are not in employment, education or training (NEET) and at-risk youths, in a community setting. While the age of NEET youths may vary, for the purpose of this project, it refers to young people aged 15 to 21.

CLAP是全港首個結合跨界別力量，全面協助15-21歲在學及待業待學青年規劃前路的項目。計劃由香港賽馬會慈善信託基金撥款5億港元，於2015年5月開展，為期五年。

作為計劃首席研究顧問（社區），黃教授領導浸大團隊，專注從社區入手，為15至21歲的「尼特族」（NEET，Not in Employment, Education or Training 的簡稱）或有機會成為尼特族的青少年（NEET-at-risk）提供協助。所謂「尼特族青少年」，就是並非在學、就業或培訓的青少年，而國際上對其年齡劃分各有不同，是次計劃就針對15至21歲的青年。



Prof Victor Wong
Cheong-wing

黃昌榮教授





CLAP promotes an expanded notion of career | CLAP不時舉辦活動推廣正確生涯觀念

Vocation is not equal to career

Community projects that serve NEET youth exist, but Prof Wong pointed out that the primary goal of these projects is to facilitate enrolment in further studies or job search. Prof Wong considers that this approach merely removes the “N” from “NEET”. It only focuses on changing the status, but neglects whether it is an identity outcome or a positive outcome. He said that traditional outreach and youth services tend to just try to help youths find a status or place within mainstream society without taking into consideration talent allocation or the meaningfulness of career development in the eyes of youths.

In contrast to the conventional notion of career, which is limited to vocational career or paid work, Prof Wong's concept goes beyond vocational career to also include leisure career and learning career. Learning career traditionally means qualifications, but he believes learning is much more than that. “When people in mainstream society look at these marginalised teenagers, I hope they will see their potential, rather than academic qualifications. Academic qualifications are important, but experience is equally important.” This has become the driving force behind his promotion of “CV360”. A standard CV (curriculum vitae) only places emphasis on academic qualifications, professional qualifications and work experiences, but CV360 aims to provide a more rounded overview of the person by attaching importance also to life experiences, because these life experiences often bring about growth and development in young people.

職業不等於生涯

有關尼特族青年的社區工作並非新鮮事，但黃教授指出，社工以往多集中於勸籲他們讀書或找工作。「這個取向其實只是把主流社會眼中的NEET的N去掉，只着重其狀態結果，但就忽略了這個狀態結果到底是不是一個身份結果，以及是不是一個正面結果。」他強調，傳統外展工作或青少年工作只是希望協助他們找到一個狀態，而沒有考慮人才配置、工作對青年而言是否具有意義、工作與餘暇生活會不會找到生涯發展的取向等問題。

因此，黃教授就發展出一套生涯發展的延展意涵。在傳統生涯發展觀，職業就是生涯，但在黃教授的論述中，職業生涯只應是生涯的一部分，其餘還包括餘閒生涯與學習生涯。學習生涯傳統上只重視資歷，但他指出，學習的過程現實上不僅限於文憑、學歷：「我們希望主流社會觀望一些匱乏、被邊緣化的青少年時，看得到他們的潛能，而不是只看他們的學歷。學歷固然重要，但經歷亦同樣重要。」此遂成為他推動「CV360」的誘因。一般的CV（履歷）只重視學歷、專業資格與工作經驗，但較全面的CV360亦重視人生經歷，因為人生經歷往往讓青年人產生轉變。



Bi-directional transfer of VASK

The VASK framework proposed by Prof Wong is an abbreviation for “values, attitudes, skills and knowledge”, which he considers transferrable across different forms of careers. He cites a youngster he met who failed his HKDSE examinations and developed an interest in street dance. The youth realised that it is difficult to earn a steady income as a street dancer, but through CLAP, he soon understood that a career is not limited to a vocational career. So, he took a job as a steel fixer, and teaches street dance at a non-governmental organisation (NGO) after work. He aspires to run a dance studio one day. Prof Wong pointed out that the VASK of steel fixing and dancing can be bi-directionally transferred. The safety mind-set developed from steel fixing can be applied to dancing, while the concentration, teamwork and planning required for dancing can also help his job as a steel fixer.

Prof Wong’s intention is not to downgrade the importance of a vocational career, but to promote the idea that a vocational career is not only dependent on academic qualifications. Unpaid work also has great value, especially in broadening the life experience of young people. In the example above, serious leisure is a form of unpaid work. Leisure, if pursued in a systematic and determined manner, is not that different from work, only it is unpaid. It might be in the form of volunteering, however if one is successful enough at it, there is a chance to get monetary reward. Magic, cooking and handicrafts are common examples.

生涯因子雙向轉換

黃教授就提出可轉移的生涯因子「VASK」這理論。所謂VASK，就是「價值、態度、技能與知識」的縮寫，而這些因子大部分都可以轉移。他援引一個計劃的真實個案為例，一個DSE不及格的青少年在加入計劃後找到街舞這興趣，奈何卻難以透過跳舞賺取穩定收入。但他在計劃中發現，原來人生的生涯發展不只是職涯，而尚有閒涯與學涯。因此，他便以紮鐵為正職，下班後在NGO免費教青少年跳街舞，為日後開辦舞室鋪路。黃教授指出，紮鐵與跳舞兩者的生涯因子就可以轉換，例如跳舞時可借鏡紮鐵工作重視的安全措施；而跳舞所需的專注態度、團隊合作及計劃亦有助紮鐵工程，實現雙向轉移。

黃教授強調，其論述並非推翻職涯的重要性，而只是指出，職涯不能單看學歷，還要拉闊青少年人生經歷，故無酬工作亦十分重要。上述例子中，堅趣就是無酬工作的形式之一，因為很多專注發展的興趣與工作差異不大，只不過性質上是無酬。志願工作是當中的一個形式，如果做得成功的話亦有機會轉變成為有酬工作，魔術、廚藝、手工製作就是常見例子。



The Hon Carrie Lam Cheng Yuet-ngor, then Chief Secretary for Administration of the HKSAR, and distinguished guests at the launch ceremony held in 2015
 啟動禮於2015年舉行，時任政務司司長林鄭月娥女士獲邀出席



The VASK of dance is transferrable to other fields | 跳舞的VASK亦可以轉移至其他領域

RON: indispensable for youths

In addition to letting young people explore their interests and talents, an enabling environment is crucial to helping them develop and pursue those interests and talents. Prof Wong pointed out that society must provide people with resources, opportunities and networks (collectively called “RON”). CLAP has been running District Service Teams in collaboration with five NGOs, namely The Boys’ & Girls’ Clubs Association of Hong Kong, Hong Kong Young Women’s Christian Association, Hong Kong Christian Service, Hong Kong Children & Youth Services, and Evangelical Lutheran Church Social Service (Hong Kong), to provide RON for youths in various districts.

Through CLAP, Prof Wong encountered a girl who had led a reclusive lifestyle for seven years. With only primary-level education, finding a job was very difficult for her. Noticing her talent in cleaning and tidying up her home, the team helped her secure a part-time job in a local homeware company. A year later, she was promoted to full-time employment in light of her good performance. The girl later returned to school and now hopes to attain at least a junior secondary school qualification. Cases like the girl show how important social support is for the development of young people.

Changing the principles of talent allocation is also beneficial for enterprises as academic performance is not always the determining factor for job performance. Rather, matching people and positions with reference to VASK can foster employee engagement, and thus lead to higher staff retention rates and productivity. It can also lead to recognition and build positive employer reputation. The aforementioned homeware company won an award for equal opportunities in the workplace by applying the ENOW-VASK framework, which identifies personal strengths and defines jobs informed by the expanded notion of work (ENOW), and encompasses both paid and unpaid work experiences.

CLAP has been operating for more than four years now. From the start of this project until July 2019, 9,011 young people have benefitted from its services. Of the online users, 85% agreed that CV360 has helped boost their self-confidence, self-understanding and career development. Moreover, 87% of all service users agreed that they have had meaningful engagement in education, employment or training through CLAP. As many as 93% of the 672 business partners participating in the programme expressed their openness and willingness to support youth on their career roadmap. Buoyed by the success of the programme and seeing the positive impact it has on young people’s lives, Prof Wong hopes to extend the novel idea of ENOW-VASK to other societies and cultures to benefit more disadvantaged youths who possess lower levels of formal education, and even those more privileged with better education qualifications.

資源機會網絡 缺一不可

然而，除了讓年青人認識自己的興趣與專長之外，尚需要環境配合方能成事。黃教授指出，社會必須提供有利環境，包括資源、機會與網絡（合稱RON）。與CLAP合作的五家NGO，包括香港小童群益會、香港基督教女青年會、香港基督教服務處、香港青少年服務處基督教、香港信義會社會服務部，就分別成立五支地區服務隊，為社區的青年人提供RON。

黃教授過去曾遇到一位隱蔽長達七年的少女，學歷只有小學程度，但他發現少女的興趣是執拾家中物品，因此讓少女由兼職開始，在本地一家大型家私公司工作，一年多後因表現理想而轉為全職。少女後來重新上學，期盼起碼達到初中學歷。有賴社會支持，青年方有空間成長。

黃教授表示，改變人才配置方針對企業而言亦十分有利，學歷未必是聘用合適人材最重要的條件，反而相配合的VASK才更願意長期留效。該家私企業亦因為透過應用ENOW-VASK概念配置人材，而得到職場平等機會的獎項。

CLAP開展四年多，至2019年7月已服務9,011位青少年。線上用者研究顯示，85%同意CV360有助他們增加自信、自我認識與生涯發展。另有87%服務用者通過CLAP，獲得有意義的教育，就業或培訓參與。而參與計劃的672個商業夥伴，多達93%表示願意為青年生涯發展提供支援。有見於計劃成效，黃教授希望未來可推而廣之，把嶄新的生涯角度拓展至其他社會及文化，惠及社區更多低學歷青年，以至高學歷青年。

Creativity × Furniture × Jewellery

創意 × 家具 × 首飾

Have you ever imagined that a chair could be converted into a coffee table, or even a lamp? Mr Andrea Ingrassia, a lecturer from the Academy of Visual Arts at HKBU, has invented an interlocking design, which allows the user to mix and match different components to create unique art pieces.

你有曾想過一張椅子可以變換成一張桌子，或甚至一盞燈？香港浸會大學視覺藝術院講師Andrea Ingrassia先生憑着非凡想像力，發明聯鎖扣設計，應用於家具與首飾設計，便可讓用戶隨意拼湊出獨一無二的產品。

The interlocking mechanism enables users to fit different parts together using the slots in the pieces. Assembly and disassembly is easy and does not require the use of screws, glue or tools. Owners can customise their own unique products by combining different parts. Mr Ingrassia, who has years of toy design experience, said the interlocking mechanism originates from a toy design of his. Initially, his goal was to create a construction toy that connects a number of table tennis balls. He later found that the interlocking mechanism could be scaled up according to needs, revealing great potential for application in a variety of products for daily use. Consequently, he designed two collections based on the interlocking mechanism—*OH Furniture Collection* and *OHO Jewellery Collection*.

所謂聯鎖扣設計，就是部件的設計可以簡單組合，通過凹凸部位扣合即可緊緊結合，毋須膠水或螺絲。由於只要凹凸部位吻合，不同形狀的部件都可互相組合，讓玩家可獨力完成組合出只屬於自己的設計品。本身有多年玩具設計經驗的Ingrassia先生表示，當初思考到這個設計時，是希望設計出一件把乒乓球連結起來的玩具。但後來他發現，聯鎖扣設計可以按比例放大縮小，應用範疇可以更為廣泛。於是便以此為基礎，設計出兩套獨特的家具與珠寶產品。



The interlocking mechanism | 聯鎖扣設計





Mr Andrea Ingrassia



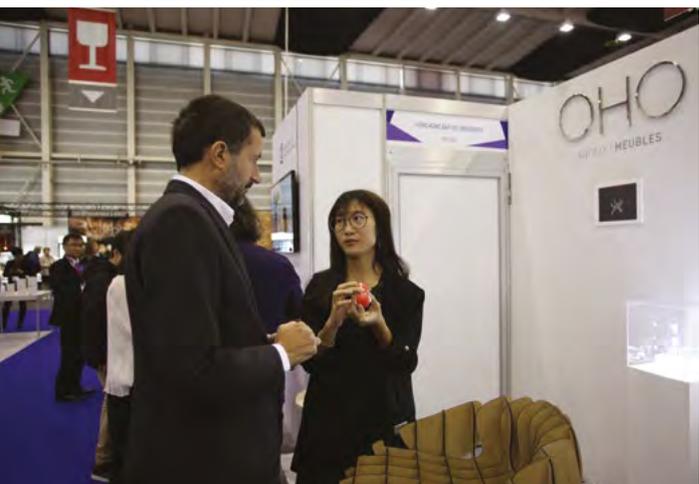
Finding fame in Geneva

The *OH Furniture Collection* created by Mr Ingrassia deviates from conventional furniture design. Each product is not in a fixed form, but composed of parts that can be freely assembled into different furniture pieces. For example, by replacing some of the parts, a chair can be converted into a coffee table or even a lamp. The inherent flexibility and portability of this design makes it an ingenious, modern solution to interior space needs. Assembled without screws or nails, the *OH Furniture Collection* takes a minimalist form, a style Mr Ingrassia advocates, and has no excess decoration, underscoring its understated elegance.



Also following this design concept is the *OHO Jewellery Collection*. The ring, necklace and earrings in this classic, timeless collection consist of beautiful gemstones and sterling silver connected using the same interlocking mechanism. The jewellery pieces can be easily modified and adjusted to fit the mood or needs of the occasion, giving wearers the versatility to transform their look from casual to sophisticated, anytime, anywhere.

With funding from the Matching Proof-of-Concept Fund of the HKBU Knowledge Transfer Office, the *OH Furniture* × *OHO Jewellery Collection* were exhibited at the 47th International Exhibition of Inventions of Geneva. Widely praised, the *OH Furniture Collection* won a gold medal, while the *OHO Jewellery Collection* was awarded a silver medal. *OH Furniture* × *OHO Jewellery Collection* are one of the very few non-scientific and non-medical entries to win awards at the Exhibition. In light of this, the University Grants Committee was delighted by the success of *OH furniture* × *OHO Jewellery Collection* and congratulated Mr Ingrassia for this design breakthrough.



揚威日內瓦發明展

Ingrassia先生設計的「OH家具組合」有別於傳統家具，每件產品沒有特定的形態，各個部件都可以被自由組裝，組成成各種不同的家具。例如一張椅子可以藉替換部件，變成一張咖啡桌；如果把桌面替換，又可改裝成一盞落地燈。Ingrassia先生表示，這個設計既能巧妙迎合現代的室內空間需求，又能賦予用家充分地自由發揮創意。此外，由於OH家具毋須螺絲或釘子即可組合，不論組裝、改裝或解體都相當容易，故充份展現其靈活性，亦使產品更便於攜帶。Ingrassia先生崇尚簡約主義，此點可從其作品中體現無遺，OH家具沒有多餘的裝飾，透過還原家具的原來面貌，呈現樸素淡雅。



應用聯鎖扣設計的另一系列名為「OHO首飾組合」，作品不管是項鍊、戒指或耳飾，都同樣容許用家因應不同場合來替換組件。透過純銀製成的聯鎖扣，用戶可隨時隨地替換、組合不同珠寶，設計各種彰顯品味的首飾，以便配合當天的造型。

獲得知識轉移處的概念驗證配比基金支持，兩個項目：「OH家具組合」及「OHO首飾組合」在2019年於瑞士舉行的第47屆日內瓦國際發明展上參賽，分別榮獲金獎及銀獎的殊榮。這是展覽中少數非科學及非醫學的得獎項目，難怪Ingrassia先生亦表示，對是次獲獎喜感意外，但亦很高興獲評審肯定。大學教育資助委員會也喜見「OH家具組合」及「OHO首飾組合」獲取殊榮，並向Ingrassia先生道賀。

OH Furniture × *OHO Jewellery Collection* was awarded a gold medal and a silver medal in the 47th International Exhibition of Inventions of Geneva

「OH家具組合」及「OHO首飾組合」在第47屆的日內瓦國際發明展上榮獲金獎及銀獎殊榮



The *OH Furniture* is easy to assemble and disassemble | OH家具可隨意組裝與分拆



The *OHO Jewellery* allows modification and adjustment to fit the mood or needs of the occasion | OHO首飾讓用戶可以隨時隨地替換、組合不同珠寶，配合當天造型

Bringing style home

Mr Ingrassia's interlocking design has been granted patents in the United States, mainland China, Hong Kong and Macau. He is currently busy bringing the *OH Furniture Collection* to market. Mr Ingrassia revealed that he has already concluded negotiations with a furniture company, which will be responsible for the production of the items and retail sales channels. At the initial stage, he plans to release the table and chairs. According to Mr Ingrassia, the legs of the chairs will be made of ash wood, which is tough and durable, while the cushion will be made of polyurethane. Highly compressible, the choice of polyurethane would keep packaging of the flat pack furniture to a minimum for easy and cheap transport and storage.

Mr Ingrassia believes the biggest challenge of the production will be making the moulds. 3D printing is only suitable for making lightweight, smaller prototypes. For mass production of the chair in actual size, purpose-built aluminium moulds are required, but production is complicated and very costly. He is in the process of applying for funding from CreateHK, the government agency dedicated to promoting the development of creative industries in Hong Kong. In order to facilitate the promotion of the collection, Mr Ingrassia is planning to release a website and participate in major exhibitions at home and abroad, including the renowned Salone del Mobile Milano. Envisioning the future, Mr Ingrassia plans to introduce a more environmentally sustainable version of the chair. He is considering the possibility of making the chair entirely from bamboo, which grows faster than trees, but he is still looking for the best bamboo material that would fit his requirements in terms of size and texture. Once he finds a suitable material, he will start the next stage of production to provide more artistic and functional, yet affordable home goods for the public.

籌劃推出市面

Ingrassia先生的聯鎖扣設計已獲得美國、中國內地、香港和澳門專利，而他現時正忙於讓OH家具組合推出市面。他透露，已與一家家具公司洽談合作，將負責產品的生產與銷售渠道，於首階段推出一款桌子及椅子。據Ingrassia先生計劃，椅子的骨架將以白蠟木製成，堅韌耐用，而椅墊物料則採用聚氨酯，該優點是易於抽真空壓縮，配合可隨意分拆的骨架，整張椅子可解體成較平面的形態，方便用戶搬運或儲藏。

生產工作如火如荼，Ingrassia先生認為，當中最大難度是製作用於生產的模具。因為製作重量較輕、體積較小的原型產品時才可使用3D打印，但是批量生產時則需要用上鋁製模具。鋁製模具製作殊不容易，費用亦高昂，故他現正申請「創意香港」資助計劃，希望得到款額以繼續支持工作。為求獲得更廣泛宣傳，他打算設計網頁，並透過參與國內外大型的展覽，包括名聞遐邇的米蘭家具展來介紹其產品。Ingrassia先生亦計劃推出更切合可持續性的全竹製椅具，因為竹比樹木生長速度更快，椅子亦不會用上聚氨酯。他表示，現正物色大小與材質都適合的竹材，尋獲後便會開展下一階段的製作，為大眾提供更多可負擔又實用的家具藝術。

Illustrating News Censorship on Stage

舞台劇訴說新聞審查現況

“Truth is virtue” is a principle of news reporting. Through the play *No News is True News* written by Associate Professor of the Department of Humanities and Creative Writing Dr Wong Kwok-kui, those involved in the play and those watching it are able to exchange their views on press freedom in the context of the current situation and difficulties.

「唯真為善」是新聞報導的原則。透過浸大人文及創作系副教授黃國鉅博士的作品《新聞小花的告白》，就現今時事及困境，他與觀眾共同思考了新聞自由的議題。

In *No News is True News*, a play put on by Windmill Grass Theatre last year, Rebecca, the protagonist, is a female anchor of a TV news channel. Although a scandal involving a high-ranking government official has been uncovered, she is unable to disclose it to the public. At the end, she adhered to the principle of “Truth is virtue” and pointed out that in order to find the truth we need to see things for ourselves.

《新聞小花的告白》（下稱《新》）是去年風車草劇團的舞台劇作品，講述主角Rebecca是電視台新聞女主播，雖挖到高官醜聞，卻未能公開。最後她本著「唯真為善」的原則，指出只有親身往現場觀看實況，才能尋找真相。



Dr Wong receives the title of Best Playwright at the 28th Hong Kong Drama Awards Presentation Ceremony
黃博士於第28屆香港舞台劇獎頒獎禮榮獲「最佳劇本」



Media censorship to manufacture consent

“Truth is virtue” is a tenet that has interested Dr Wong throughout his journalism career. He said an incident involving a local news anchor who shed tears during a live broadcast inspired him and the drama troupe to write a play with journalism as its central theme. Dr Wong wrote the play in 2017, a year when many media professionals were questioned about censorship. Dr Wong, who had served as a newspaper editor for a short time, raised a question on whether journalistic principles were being followed. “What would happen if an aspiring journalist works in a media agency with strict censorship? Inevitably, the person would have to deal with a situation where the work is contrary to his or her own principles. Is compromise or resignation a way out?” He also questioned whether online media platforms, which have increased in number in recent years, are as free from censorship as the public imagines. He decided to discuss these issues with audiences via the drama.

In order to make the plot as close to real life as possible, Dr Wong not only discussed with friends in the media industry and gained insights from them, but also cited the book on news censorship—*Institutional Logics as Constitutive Censorship: The Case in Hong Kong Broadcast News Media*—written by veteran journalist Dr Allan Au Ka-lun, and *Manufacturing Consent: The Political Economy of the Mass Media*, the masterpiece co-written by Edward Herman and Noam Chomsky, among others. “The theme of *Manufacturing Consent* is that the consensus of a democratic society is just an illusion, as news misleads the public to focus only on certain issues.” *No News is True News* echoes this theme and challenges audiences to analyse news, to develop their news and media literacy, and to reject passive spectatorship of news.

審查新聞 製造共識

「唯真為善」是黃博士思考新聞審查時的一個重要命題。談及創作靈感時，黃博士表示，緣起是有「新聞小花」在節目中落淚，因此與劇團決定創作一個以新聞為題材的劇目。執筆之時為2017年，當時不少傳媒俱被質疑新聞審查。本身曾短暫任職報紙編輯的黃博士心中漸起疑竇：「一個富有理想的傳媒工作者於內部審查嚴重的媒體工作，難免須處理與自己理念、原則相違背的工作。此時應該如何自處？是妥協還是辭職？」他亦質疑，近年方興未艾的網媒，是否真如大眾想像般自由？他遂決定以在舞台上與觀眾共同探討上述問題。

為了讓劇情盡可能呈現現實中的傳媒業，黃博士除借鏡新聞界朋友經驗，亦參考過資深傳媒人區家麟的《二十道陰影下的自由：香港新聞審查日常》，以及Edward Herman與Noam Chomsky合著的名作《製造共識：大眾傳媒的政治經濟學》*Manufacturing Consent: The Political Economy of the Mass Media*。「《製造共識》的主題是建立民主社會的共識，但可惜部分新聞從業卻誤導了公眾，令主題失去了原意。」《新聞小花的告白》正正呼應着這個主題，期望觀眾走出被動閱讀新聞的狀態。

Art as a channel to study social issues

No News is True News was performed 10 times at the 800-seat Kwai Tsing Theatre to about 8,000 viewers. Dr Wong mentioned that the play attracted many friends from the journalism industry, and the plot resonated powerfully with them, especially the scene where the protagonist and her supervisor enter into a war of words on whether or not the political scandal should be made public. The show proved to be a great hit, and received widespread critical acclaim, with one critic describing it as “a play that every Hongkonger must watch.” There are more than 700 posts on social media, such as Instagram, discussing *No News is True News*. Judging from the discussions, the play has attained its aim of drawing Hong Kong people’s attention to the issue of press freedom.

Nevertheless, some critics have questioned the purpose of reproducing for the stage the real dilemma facing the journalism industry. Some have asked what *No News is True News* will bring to society in terms of changes and choices, apart from providing a channel for venting views. Dr Wong thought about this issue thoroughly and summarised his views in a book titled *Dionysus’ Protest*, which was published in May this year to discuss the role of art in society. In the book, Dr Wong points out that “art is not a rational solution in social movements, but an interaction between emotions and rationality. Art is different from political propaganda, which irritates readers to join the demonstrations, but rather, it helps us think about problems.”

Safeguarding creative freedom

Dr Wong’s work has always been closely related to society. For instance, *Century-old Dreams of a Fishing Harbour* reinterprets Hong Kong’s history, which is generally viewed from an economic perspective. In contrast, he took an alternate path to trace back how Hong Kong people’s self-consciousness was constructed. *Defiance*, another play written by Dr Wong, explores the conservation of heritage sites, which is exemplified by the demolition of Queen’s Pier. Dr Wong hopes that his works will bring the audience a new perspective. *No News is True News* is also a new attempt for Dr Wong because his previous works tend to be of a more “serious literary” style. On the contrary, *No News is True News*, which was staged by a commercially successful theatre company, is aimed at a wider target audience and the ordinary citizen. Apart from infusing humour and using fast-paced scenes to grab and hold the viewers’ attention, Dr Wong used creative dialogue and an intelligent storyline to bring about a profound impact on society.

藝術幫助思考社會問題

《新》選址可容納800人的葵青劇院作舞台，連開十場，合計近8,000名觀眾入場。黃博士坦言，演出吸引不少新聞界朋友前來觀賞，並對情節產生共鳴，尤其是主角與上司為了新聞能否播出而唇槍舌劍的一幕，反映劇情刺中新聞行業的問題。坊間普遍對劇目有口皆碑，甚至譽為「香港人必定要看的舞台劇」。社交平台Instagram亦有700多條貼文討論劇作，可見《新》劇已成功引起港人關注新聞自由的議題。

然而，亦有評論者質疑，再現新聞界的現實有何作用？在情緒發洩以後，《新》又為社會帶來甚麼改變與選擇？黃博士仔細思考上述問題，並把自己的看法結集成書《酒神的抗爭》，並於今年五月出版了，討論到藝術在社會的作用。黃博士指出，「藝術在社會運動中不是一種理性的解決辦法，而是一種情緒與理性之間的互動。藝術不同於政治宣傳，令觀眾看畢馬上上街，但卻可幫助我們思考問題。」

堅守創作自由

黃博士的作品一向與社會息息相關，例如《漁港夢百年》重新詮釋香港歷史，將一般從經濟角度切入香港史，改為從自我意識的建構溯源；《焚城令》則探討保育議題，遙相呼應當時的皇后碼頭清拆事件。黃博士希望，透過作品可為觀眾帶來一個觀望事物的嶄新角度。《新》對於黃博士而言亦是一個新嘗試，他自言以往的作品比較嚴肅，而《新》則由商業上十分成功的「風車草劇團」演出，面對大眾，必須做到雅俗共賞。除了保持節奏緊湊，引入幽默元素之外，亦可繼續帶出深刻影響。



Rebecca, the protagonist, is an anchor of a TV news channel
女主角Rebecca是一名新聞主播



A scene where Rebecca uncovers a scandal involving a high-ranking government official
Rebecca發現高官醜聞



Everyone around Rebecca betrays her, preventing her from disclosing the truth
Rebecca身邊的所有人皆出賣她，致她未能公開真相

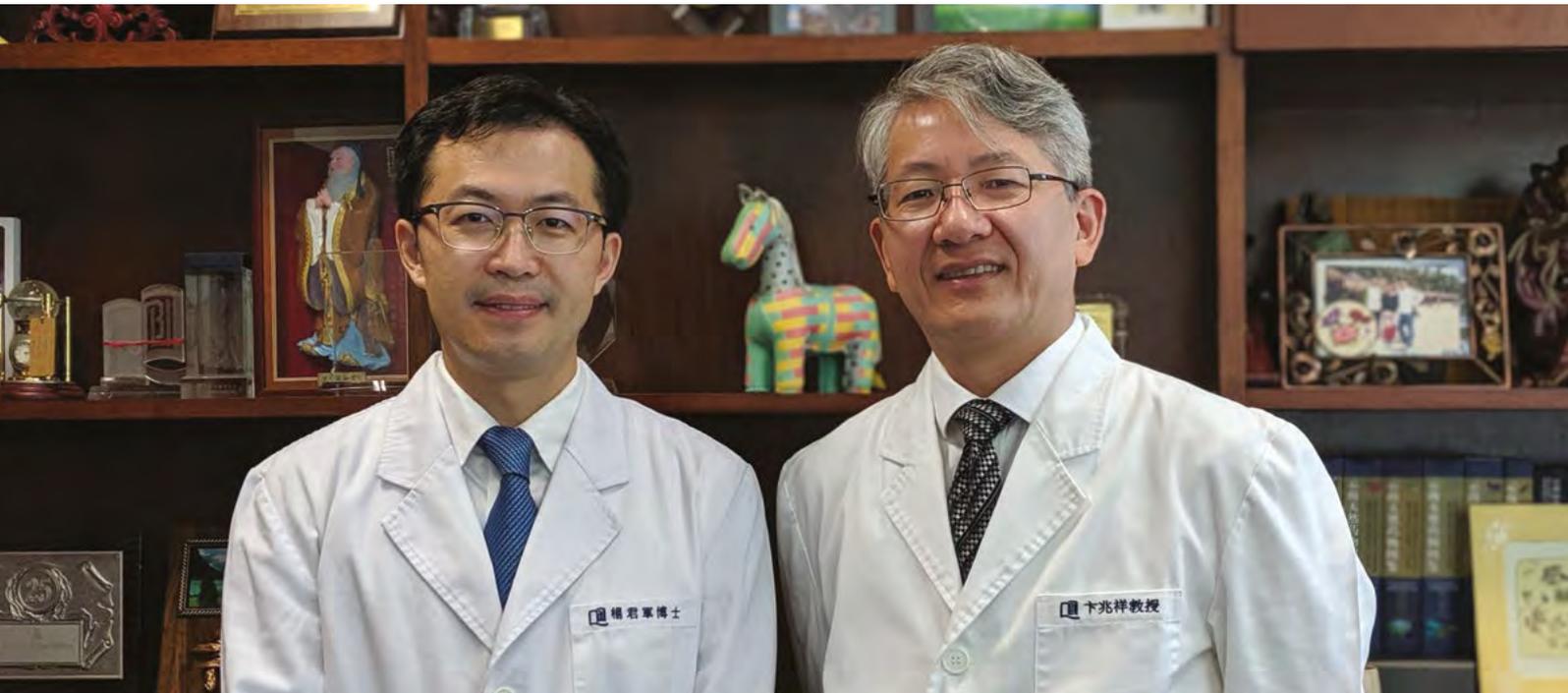
This formula proved successful. At the 28th Hong Kong Drama Awards Presentation Ceremony held in April 2019, Dr Wong was named Best Playwright. *No News is True News* also won two awards, namely Best Production and Best Actress. He believes that the string of awards are a recognition from the drama sector on his work and also the message conveyed by the play. He said frankly that creative writing requires freedom as much as journalism does, but the room for creativity in popular culture is slowly shrinking. Although Dr Wong thinks the drama sector is currently enjoying creative freedom, he is worried that the invisible hand will soon extend to the sector. However, he feels gratified to be able to see at the presentation ceremony the resolve of his peers to distinguish between truth and falsehood and to protect Hong Kong's core values.

事後證明這是一個成功的嘗試。在今年四月舉行的第28屆香港舞台劇獎頒獎禮，《新》榮獲「最佳劇本」，同時亦囊括「最佳製作」及「最佳女主角」兩項大獎。黃博士認為，得獎反映香港戲劇界認同其作品以及當中的理念。他直言，創作與新聞同樣需要自由，但普及文化中的自由空間正日漸收窄。雖慶幸尚有舞台劇這個板塊，但他亦擔心無形之手終將伸延至此。不過，在頒獎禮上看到同業的堅持、對是非黑白的明辨、對香港核心價值的守護，凡此種種，俱讓他感到欣慰。

Embracing Health 擁抱健康

A rapidly aging population places a growing burden on healthcare systems. To help address this impending challenge and lessen the load on Hong Kong's medical sector, the School of Chinese Medicine at HKBU collaborated with The Hong Kong Jockey Club Charities Trust to establish a Chinese Medicine Disease Prevention and Health Management Centre to promote preventive healthcare.

隨着人口老化，本港醫療負擔日增，有見及此，浸大中醫藥學院與香港賽馬會慈善信託基金合作成立疾病預防與健康管理中心，透過中醫「治未病」概念，減少社會人士患病的風險。



Prof Bian Zhaoxiang (right) and Dr Yang Junjun (left) | 卞兆祥教授 (右) 及楊君軍博士 (左)

Population aging will pose difficulties for Hong Kong in the next 20 years. One huge challenge that comes with an aging society is the overall increase in the number of patients with chronic diseases, putting a strain on the public healthcare system. That said, some chronic diseases can be avoided. According to Prof Bian Zhaoxiang, Associate Vice-President (Chinese Medicine Development), Director and Chair Professor of the Clinical Division, the School of Chinese Medicine (SCM) at HKBU, Chinese medicine is adept at treating chronic diseases and preventing the aggravation of diseases.

Indeed, the concept of *Zhi Wei Bing*, which propounds the idea of preventing illnesses from occurring by balancing the body constitution, is central to Chinese medicine. Therefore, Prof Bian considers Chinese medicine a possible solution to the challenges posed by an aging population. To this end, the School of Chinese Medicine has launched a five-year Jockey Club 'Embrace Health' Chinese Medicine Programme and established the HKBU-Jockey Club Chinese Medicine Disease Prevention and Health Management Centre in 2018, with the generous donation of HK\$95.18 million from The Hong Kong Jockey Club Charities Trust.

香港人口持續老化，而老年化的其中一個問題就是慢性疾病較多，因此導致本來已超出負荷的公共醫療加劇惡化。浸大協理副校長（中醫藥發展）、中醫藥學院臨床部主任、講座教授卞兆祥教授表示，該問題對於本港的公共醫療體系而言是巨大挑戰。

考慮到中醫擅長於治療慢性疾病，同時中醫透過體質調理預防疾病產生、病性變化及病癒後復發的機會，亦有助減少整體病患數量，中醫藥學院萌生成立疾病預防中心的打算。幸獲香港賽馬會慈善信託基金慷慨撥款9,500萬元，為期五年的賽馬會「擁抱健康」中醫計劃成功開展，而香港浸會大學－賽馬會中醫疾病預防與健康管理中心亦於2018年7月12日成立。



"Health Diary" function allows users to record their daily data
「健康日記」功能讓用戶紀錄每天生活數據



The Centre organises health talks for the public
中心不時舉辦健康講座予大眾參加

Zhi Wei Bing in modern settings

The Centre is Hong Kong's first Chinese Medicine Prevention and Health Management Centre that has a goal of "preventing diseases from occurring; speeding up recovery from minor illness; and preventing chronic disease progression". To nip illness in the bud, the Centre provides a comprehensive health management plan, which is backed by the theory of *Zhi Wei Bing*, a long-standing idea which first appeared in *Huangdi Neijing*, the ancient Chinese medical text that existed before the establishment of the Qin dynasty. "Although the principle is from ancient times, the idea of preventive healthcare is particularly suited to our modern lives," said Prof Bian.

According to Dr Yang Junjun, Associate Director and Senior Lecturer of the Clinical Division of SCM at HKBU, education is key to remind people that prevention is always better than cure, and that a little change in lifestyle can lead to better health and reduce the risk of illness. To popularise knowledge of Chinese medicine, the Centre launched an informative website, which recorded a total of 2.6 million hits as at February 2019. In addition, the Centre releases four free publications per year to transfer knowledge of Chinese medicine to the public. In 2018, 6,000 copies of each of the four publications were distributed, and a TV programme *Knowing Chinese Medicine* was broadcast on ViuTV, reaching an audience of over 100,000 people with each of its 13 episodes.

現代治未病模式

作為全港首家以中醫疾病預防與健康管理為核心的中心，工作目標涵蓋「未病防病，已病防變，病癒防復」三大方面。中心引用中醫有關「治未病」方面的理論，為病人提供中醫疾病預防的綜合管理方案。治未病的概念源遠流長，最早見於《黃帝內經》，但卞教授亦言：「理論雖源自古代，但其系統仍然適用於現代生活。」

浸大中醫藥學院臨床部副主任、高級講師楊君軍博士指出，教育市民為重要的工作，因為預防勝於治療，而生活方式的少許改變，就可促成更健康的身體，從而減少患病的機會。因此，中心推出宣傳網站提供普及中醫知識，至2月已累積260萬點擊。此外，中心亦每年推出四本免費刊物為大眾提供中醫資訊，每本初版6,000冊，去年的四本已經悉數派出。與ViuTV合作的電視節目《中醫「症」解》，共製作了13集的節目，而每集皆保持10萬以上收視，足見「擁抱健康」計劃已漸見成效。



Four Diagnostic Instrument helps collect data from patients | 中醫四診儀協助收集求診者數據

Complementarity of Chinese and Western medicine

Since its opening until February 2019, the Centre provided outpatient services to members of the public through around 20,000 medical appointments. Dr Yang said that many of the people who came to the Centre for consultation were just physically unwell, but not sick. For example, some patients were suffering from a sore neck, but X-ray examinations showed no signs of abnormalities. He said that many of these people who have sub-optimal health are office workers. In general, Chinese physicians will relieve their discomfort through health measures, including dietary advice, Chinese medicine conditioning, acupuncture, moxibustion, foot bath, Qigong, Tai Chi, and advice on daily life. Physicians will also provide assistance in dealing with some chronic diseases to prevent or stop its progression. For citizens who are suffering from illnesses, physicians will alleviate the symptoms and reduce the risk of complications. Prof Bian added that Chinese medicine could help reduce the side effects for some cancer patients who are undergoing chemotherapy or recovering from surgery. Some patients still feel unwell after the completion of Western medicine treatments, therefore Chinese medicine can help by way of balancing their "body constitution". He mentioned that many people with a family history of cancer came for consultation. Though they showed no symptoms, the physicians would still offer preventive measures, which helped ease their minds.

Prof Bian said that some patients came to him for problems that were not regarded as symptoms of illness from the perspective of Western medicine, e.g., constantly feeling cold in the limbs. Some symptoms, such as pain in the limbs, on the other hand are recognised by both Chinese and Western medicine as a sign of sickness. However, according to Prof Bian, both cases should receive medical attention. He believes it is necessary to improve the awareness of health management in daily life to prevent conditions from worsening, otherwise, it may become too late to find a cure. He believes that the focus of medical examinations in traditional Chinese medicine and Western medicine are different. Western medicine focuses on important indicators, while Chinese medicine focuses on the overall condition of the individual. In fact, both medicine systems are complementary to each other.

中西醫學 互補不足

中心亦為市民提供門診服務，至2019年2月服務人數已接近20,000人。楊博士稱前來中心問診的市民，只是身體不適居多，但未至於成病，例如頸背痠痛的患者接受X光檢查，但往往看不到異常之處。他解釋，此類亞健康人士，很多都是在辦公室工作的上班族，醫師一般會通過健康措施舒緩其不適，包括食療建議、中藥調理、針刺、艾灸、足浴、氣功、太極及調整生活作息建議等。醫師亦會協助部分慢性疾病的患者進行調理，例如長期焦慮又不至情緒病，超重又未至肥胖，都會提供方案阻止或延緩成病。對於已經患病的市民，醫師則為他們減輕徵狀，同時防止併發症出現的可能。卞教授補充，患有腫瘤的病人前來中心，即使正在進行化療、手術，中醫亦可協助減輕該治療方法引起的副作用。而部分病人在西醫療程完結後仍感不適，中醫亦可幫助調理身體。卞教授亦見不少有腫瘤家族病史的市民，雖未見病徵，但依然前來諮詢，而醫師亦會提供預防患病方案。

卞教授再舉例解釋，部分人是因手腳冰冷而求診，但此類求診者被西醫視為非病症問題。另外，有部分人士有某些徵狀是中西醫都認同屬於病徵，例如手腳痛症。但他強調，事實上兩類人士都需要同樣關心，須透過提高日常生活中的健康管理意識，以防情況惡化，否則病情加重才覺察就可能已經太遲。他認為，中醫與西醫體檢的着眼點不同，西醫重視指標，中醫則重視人的整體狀況，兩者實際上可以互補。



Knowing Chinese Medicine is a great hit with TV audiences | 《中醫「症」解》節目廣受歡迎



New technology for age-old Chinese medicine technique

The Centre has also introduced new technology to this traditional field to assist Chinese medicine physicians in making accurate diagnoses. One of the notable devices is “Four Diagnostic Instrument” that is able to collect accurate data from patients, analyse it according to the in-built database system and determine the individual’s constitution. So far, the device has been used more than 1,300 times.

The public can also register on the official website of Embrace Health Programme or use its smartphone app to record daily their health data, such as blood pressure and hours of sleep, through the Health Diary function. During the consultation, a physician can make an assessment based on that data, with authorisation from the patient, to provide a more objective judgement. The Embrace Health app has been specially designed to take into account the habits of young people, and currently has over 4,000 registered users. The app is available on the Android operating system and the iOS version is currently under development. Both Prof Bian and Dr Yang hope to attract more young people to use the app and try out the services at the Centre in the future because some signs of many geriatric diseases can actually be observed in younger adults. However, young people often overlook or misunderstand those signs.

科技協助診斷

中心除了傳統的醫師問診，亦引入科技以讓中醫診斷及治療更為現代。中心已引入兩部中醫四診儀，用現代化及科技手段來收集中醫「望聞問切」的資料，通過數據庫分析，得到體質分析結果。而市民亦可於計劃網頁或「擁抱健康」流動裝置App註冊，透過「健康日記」功能，紀錄每天生活點滴數據，例如血壓、睡眠時間等。與醫師面談時，用戶便可以授權醫師依數據評估，讓判斷更為客觀。目前「擁抱健康」App已有超過4,000位註冊用戶，而中醫四診儀服務則超過1,300人次。

卞教授與楊博士皆希望未來能吸引更多年青人試用服務，因為很多老年病其實於青中年時期已見端倪，但卻常被忽視或誤解。「擁抱健康」App就是貼合年青人習慣而推出，因此設計亦偏向年青社群。目前App已推出Android版本，iOS版本亦正在開發之中，冀能吸納更多年青人使用。

Health and Enjoyment through Light Volleyball

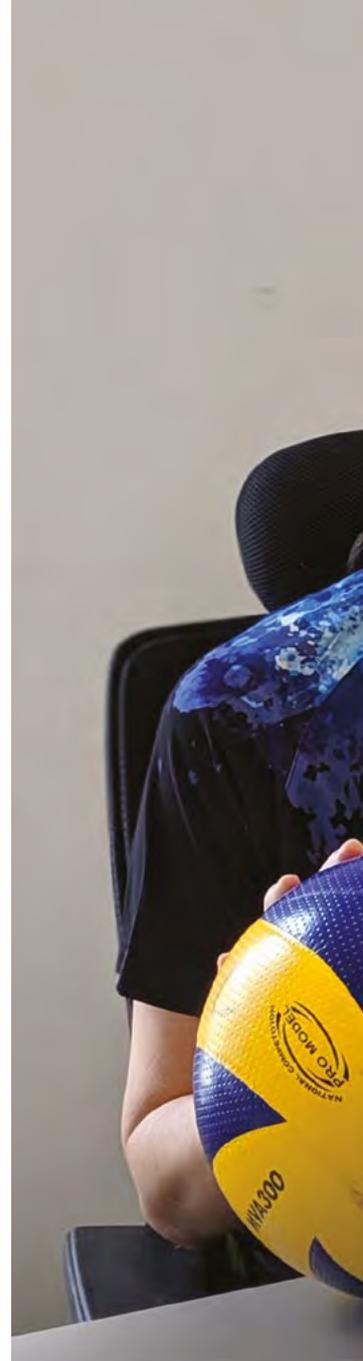
輕排球助長者與殘疾人士重拾運動樂趣

The choice of sports is greatly limited for older adults and people with physical disabilities. To bring the joy and excitement of sports to them, Dr Leung Ka-man, Research Assistant Professor of the Department of Sport and Physical Education at HKBU, is now actively promoting “Light Volleyball” to older adults and has designed a new sport known as “Sitting Light Volleyball” for people with mobility issues.

長者與殘疾人士由於身體條件所限，運動選擇一直較少。浸會大學體育及運動學系研究助理教授梁家文博士積極推廣「輕排球」予長者，並設計出更適合殘疾人士身體條件的「坐地輕排球」，為他們帶來更富趣味且有益身心的活動。

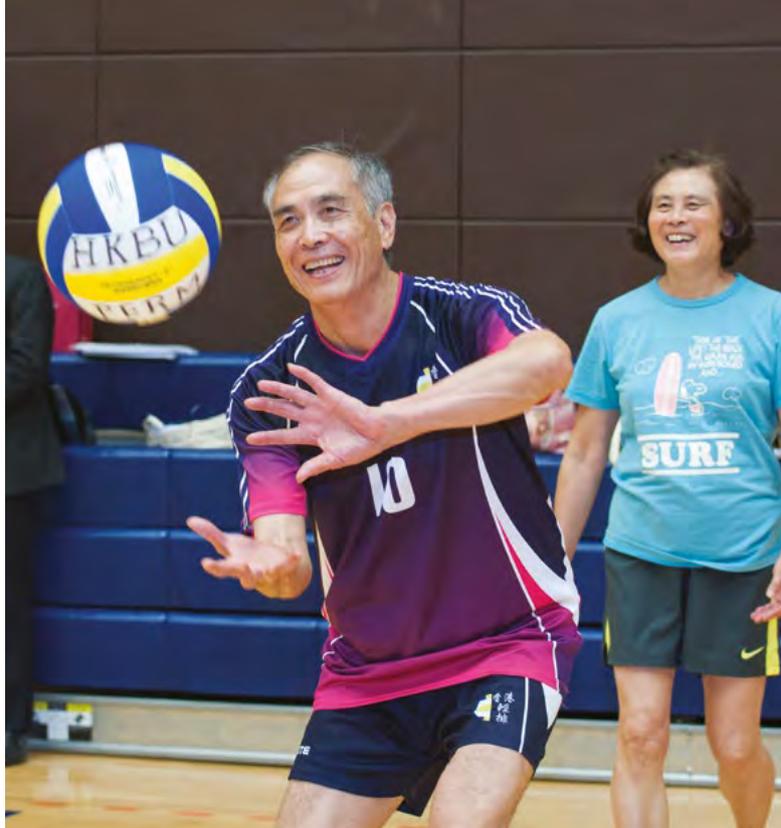
In Hong Kong, there were 1.16 million older adults according to the 2016 Population By-census, meanwhile, the number of people with disabilities reached 578,600, among whom 55% have physical disabilities, based on data from the Census and Statistics Department published in 2015. Both groups have physical limitations that restrict their choice of sports. This limits their access to sports and is considered the main obstacle for older adults and people with physical disabilities to maintain good physical and mental health.

根據2016年中期人口統計的結果，全港共有116萬名長者。而2015年的統計處數字顯示，撇除智障人士，全港約有578,600名殘疾人士，當中的55%受限於行動障礙。長者與肢體殘疾人士的共通點是體能條件存在限制，故運動選擇不多，對保持身心健康而言屬一大障礙。





Dr Leung Ka-man
梁家文博士



Light Volleyball is suitable for older adults with decreased functional fitness
輕排球適合長者體能條件



Dr Leung's book introduces Light Volleyball to readers
梁博士亦推出書本介紹輕排球

Light volleyball helps attain physical fitness

Dr Leung, a former player on the Hong Kong Women's Volleyball Team, explained that light volleyball (LVB) is a lighter and larger alternative of volleyball, which means the game is slower in velocity and less physically demanding. With simpler rules than traditional volleyball, light volleyball is also easier to start playing. Taken together, Dr Leung considers this sport suitable for older adults.

Research has been conducted on the effect of playing light volleyball on older adults in mainland China, however, those studies lacked data from a control group. With the view that more rigorous research is needed to support her hypothesis, in 2015, Dr Leung applied for the Knowledge Transfer Partnership (KTP) Seed Fund provided by the Knowledge Transfer Office of HKBU to conduct a study in this area.

Dr Leung's research examined the health outcomes of LVB among older adults, compared to *Rouliqiu* and no sport participation in the control group. "In this study, participants in the light volleyball group demonstrated improvements in agility, cardiovascular endurance, muscle strength, and they also reported enjoyment of physical activity. These improvements are even greater than those observed in the *Rouliqiu* group."

Innovative "Sitting Light Volleyball" for people with disabilities

Gratified by the improved health and quality of life observed in older adults who play light volleyball, Dr Leung set to work to see whether the sport could be promoted to other groups. Noticing the similarities between older adults and people with disabilities in terms of physical fitness and reaction time, Dr Leung thought light volleyball could be suitable for them too, just with some adjustments to the rules. In 2018, Dr Leung launched another KTP project to create Sitting Light Volleyball, a new version of volleyball specially designed for people with physical disabilities. Sitting light volleyball is a variation of Paralympic sitting volleyball. The traditional volleyball is replaced with a lighter version, and the set of rules makes it easier to master for those with motor impairment and muscular degradation. For example, it allows the ball to bounce once before a player performs a pass.

輕排球促進長者心肺肌力

本身曾是香港女子排球隊選手的梁博士於2013年接觸輕排球。她發現輕排球由於重量較輕，體積較大，速度相對較慢，對體能條件之要求相對較低。其規則亦較傳統排球寬鬆，打法易上手，讓她想到這運動十分適合長者參與。

國內曾進行長者輕排球相關研究，但梁博士指出，該研究欠缺對照組數據，故認為有需要進行更準確的研究。她於2015年申請浸大知識轉移處的知識轉移種子基金(KTP)進行研究，比照長者參與輕排球、柔力球後的身體表現，並加入對照組以茲比較。「在此次實驗中，輕排球組的長者相比對照組，在靈活性、心肺功能、肌肉力量以及做運動時的樂趣都有所增加，而且表現比柔力球組更佳。」

設計全新「坐地輕排球」

梁博士並未止於此，長者與輕排球的契合讓她想到，輕排球可推廣至其他群體。考慮到殘疾人士與長者在體能與反應有相似之處，輕排球可為他們帶來另一選擇，但就必須在打法及規則上作出調整。梁博士遂於2018年開展另一KTP計劃，設計出適合殘疾人士的全新運動「坐地輕排球」。「坐地輕排球」改良自殘奧會項目「坐地排球」，以輕排球取代硬排球，並設計更寬鬆的球例，讓參與者更容易掌握，例如容許球員在傳球時讓球彈地一下。



The net in Sitting Light Volleyball is relatively lower | 坐地輕排球的網高度較矮



To examine the health benefits of the newly invented sport, Dr Leung conducted an experimental intervention in collaboration with the Hong Kong Federation of Handicapped Youth and the Hong Kong Light Volleyball Association. For the study, adults with physical disabilities were divided into two groups, sitting LVB group and control group. Dr Leung then examined their physical and psychological changes over a 15-week period. According to her findings, the participants showed improvements in cardiovascular endurance, body fat percentage, and quality of life, and expressed enjoyment of physical activity. Many of the participants also indicated that they feel the autonomy of movement without the assistance of other people or tools when they play sitting light volleyball, and that they enjoy the social interaction that come from team sport.

A multi-pronged approach to sport promotion

Delighted by the findings, Dr Leung will continue to do more research in this area. Her application for the Research Impact Fund this year was successful and she received HK\$7.4 million for a four-and-a-half-year research project. She is currently conducting more in-depth research on the health impacts of light volleyball on older adults. This research will include a series of procedures, including experimental intervention with Tai Chi and a control group, follow-up measures and exit interviews. In the promotion phase of this funded project, she will organise train-the-trainer workshops in cooperation with 20 Neighbourhood Elderly Centres in order to train older adults, staff and volunteers into LVB trainers to ensure the project's sustainability. The next step will be to hold competitions. She revealed that the sport promotion will be extended to Shenzhen and Fuzhou through cooperation with municipal governments. It is expected that about 3,500 older adults will benefit from the scheme. A light volleyball competition will be organised, and the top teams from the three cities will be invited to the grand final to be held in Hong Kong. With an eye to the future, Dr Leung hopes that, with a multi-pronged approach, the sport will one day become an international event.

為研究效果，梁博士與香港傷殘青年協會及香港輕（氣）排球總會合作，讓殘疾成年人嘗試輪椅輕排球及坐地輕排球，而她則通過干預計劃觀察參加者的改變，結果發現他們在心肺功能、減肥、脂肪比例、運動趣味、生活質素等多個身心範疇都見改善。當中不少參加者皆反映，在體驗期間感受到毋須外力與工具輔助下的自由自在，而且透過團體運動增進社交，讓她倍受啟發。

宣傳推廣 多管齊下

繼往開來，梁博士今年成功申請研究影響基金（RIF），獲740萬元進行為期四年半的研究計劃。她正針對長者輕排球進行更深入研究，包括比對太極與對照組的干預計劃，並引入定期跟進測量及退出面試等以更準確掌握影響。研究以外，她亦擴大推廣，與20家長者鄰舍中心合作，舉辦工作坊培訓中心的長者、職員或義工成為輕排球導師，讓他們日後開班再教授其他長者，下一步更會舉行比賽讓他們參加。她透露，「透過與深圳及福州政府合作，整個推廣階段將會複製至兩地，三個城市預計有3,500人受惠。」她又表示，未來將籌組輕排球總決賽，讓三地的優秀隊伍來港參與賽事。展望未來，梁博士希望，憑藉多管齊下，終有一日可爭取坐地輕排球成為殘奧會項目。

Innovative Urine-based Prostate Cancer Detection Kit

創新前列腺癌尿液檢測

According to recent estimates, one in six men would get prostate cancer during his lifetime. The incidence rate increases exponentially with age, yet 78% of men aged 40 or above do not undergo any prostate examinations. To increase screening rates, Professor Gary Wong Ka-leung, Head of the Department of Chemistry at HKBU, has developed a simple, non-invasive urine-based detection kit for early detection of prostate cancer. The device detects biomarkers that are affected by cancer cells and has an accuracy of up to 90%.

據估計，六分之一的男性會在一生中患上前列腺癌。雖然其發病率隨年齡增長遞增，但目前多達78%的40歲以上男性未有接受任何前列腺檢查。為了解決上述問題，香港浸會大學化學系系主任黃嘉良教授開發出「前列腺癌無創尿液檢測試劑盒」，可進行簡單、無創的檢驗，用於檢測早期前列腺癌，其準確性更高達90%。



Prof Gary Wong
Ka-leung

黃嘉良教授



Prof Rick Wong Wai-kwok (middle), then Vice President (Research & Development) of HKBU, and Prof Gary Wong (first from right) introduce the detection kit at the 47th International Exhibition of Geneva

(時任) 浸大副校長 (研究及拓展) 黃偉國教授 (中) 與黃嘉良教授 (右一) 於第47屆日內瓦國際發明展上介紹檢測測試劑盒

Statistics from the Hong Kong Cancer Registry of the Hospital Authority reveal that prostate cancer is the third most common cancer in men and one of the five most fatal types of cancer. If the cancer is detected early and treated properly, the patient's rate of survival is greatly improved. Patients with stage 2 prostate cancer have a 95% chance of survival 15 years after treatment, but this rate drops to 30% if it is discovered at a late stage. Regrettably, men generally lack the knowledge about prostate cancer and do not undergo prostate screening.

Current diagnosis of prostate cancer relies mainly on clinical suspicion raised by a digital rectal examination (DRE) or prostate specific antigen (PSA) test, then confirmed by a transrectal ultrasound prostatic biopsy (TRUSPB). Although DRE is a simple procedure, it brings discomfort to patients and is a technique that is strongly investigator dependent. Poor accuracy combined with the fact that most of the correct diagnoses are for advanced-stage prostate cancer mean that DRE is an ineffective tool for early detection. A simple and popular test for detecting early-stage prostate cancer is the PSA test. It has good sensitivity but poor specificity, in other words, elevated PSA levels had been observed not only in patients with prostate cancer but also in people with Benign Prostatic Hyperplasia (BPH) and prostatitis, etc. The inaccurate and inconclusive nature of DRE and PSA tests may lead to unnecessary treatment or follow-up tests, such as TRUSPB, CT and MRI scan.

根據香港癌症資料統計中心數據顯示，前列腺癌是男性第三常見的癌症，同時亦是第五致命的癌症。然而，本港男士普遍對其了解有限，亦忽視前列腺檢查的重要。事實上，如果及早發現患病並適當治療，前列腺癌患者的存活率將大幅提升。前列腺癌第二期有95%的機率在療程後多存活15年，但如果在較晚期才發現，則該比率將下降至30%。

當前對前列腺癌的診斷主要依靠直腸指檢 (DRE) 及前列腺特异性抗原 (PSA) 測試，然後利用經直腸超聲波前列腺活體組織切片檢查 (TRUSPB) 作進一步確認。儘管DRE屬於簡單的檢查，過程卻時令病人感到不適。此外，DRE仰仗醫療人員的技術與判斷，因此診斷準確性往往欠佳，而且大多數DRE檢查呈陽性的結果都屬晚期，可見DRE並不是早期前列腺癌檢測的好方法。至於PSA測試，作為一種簡單且常見的檢測方法，雖然對早期癌症敏感度高，但在良性前列腺增生 (BPH) 及前列腺炎患者中也可觀察到PSA水平升高的狀況，意味其檢測結果並不能明確指向前列腺癌。DRE和PSA檢查存在準確性與確定性不足的問題，結果有可能導致病人需要接受不必要的治療或後續檢查，例如TRUSPB、電腦掃描及磁力共振掃描。

Simple and non-invasive diagnosis

Recent reports suggest that dysregulation of an enzyme can lead to prostate cancer. Some studies also suggest that this enzyme may serve as a target for prostate cancer therapy, and that urinary polyamine concentration could be used for diagnosing prostate cancer. In light of this new information, Prof Wong's team developed a revolutionary diagnostic tool for early-stage prostate cancer that can provide a reliable and accurate result with a simple urine test.

The nanoparticle-based aptasensor invented by Prof Wong and his team quickly and conveniently indicates urinary polyamine concentration. They also conducted a pilot study to determine the levels of various urinary polyamines in patients with known clinicopathological characteristics by monitoring the urinary levels with ultra-high performance liquid chromatography mass spectrometer. "This non-invasive, highly accurate and cost-effective test provides quick results through colours perceptible to the naked eye," said Prof Wong.

Urinary spermine was shown to have an exceptionally good diagnostic performance in distinguishing prostate cancer patients from non-cancerous cases in Prof Wong's research, which is consistent with the clinical standard of TRUSPB results. When urinary spermine acts as a secondary test to supplement the serum PSA test, the specificity reached around 60% at 90% sensitivity in the selected patient cohort. Thus, the newly developed nanoparticle-based aptasensor can serve as a novel prostate cancer diagnostic biomarker to solve the problem of the current serum PSA test which only has a specificity of around 27% at 90% sensitivity. For patients, this is highly significant since it means that around 60% of unnecessary invasive TRUSPB tests could be avoided.

簡易非入侵性檢測

近來已有研究發現一種酶素的失調可能導致前列腺癌，研究亦指出，該酶素可作為前列腺癌治療的目標，而尿多胺濃度則可作為指標判斷病人是否患上前列腺癌。基於上述研究，黃教授團隊開發出一項革命性的前列腺癌早期檢測技術，只需檢測尿液便可準確判斷病人是否患有前列腺癌。

團隊研製出一種基於納米粒子的生物感測器，可以方便快捷地檢測尿液樣本中的尿多胺濃度。團隊同時亦進行了一項先導研究，透過超高效液相色譜質譜儀監測已知臨床病理特徵患者的尿液，以確定其各種尿多胺水平。黃教授指出：「這種檢測方法可用肉眼憑顏色快速判斷結果，非侵入性而且準確度高，又具成本效益。」

黃教授的研究證明，尿精胺具有出色的診斷性能，而且結果與TRUSPB的臨床標準相符。當尿精胺測試作為血清PSA測試的輔助測試，在選定患者檢測中，特定性在90%敏感度下高達約60%。相對單用血清PSA檢測，在90%敏感度下，其特定性僅為27%左右，尿精胺測試正好可以補足其不足，避免大約60%的不必要TRUSPB侵入性測試。





New Life Medicine Technology Company Limited establishes a new research centre in the Healthcare Technology Park in Zhongshan
 新生命醫藥科技有限公司於「中山市健康科技產業基地」成立新研究中心

Spin-off company drives future research

The prostate cancer detection kit technology has filed patent applications in the United States, Europe, mainland China and Taiwan. The patents have been exclusively licensed to a Hong Kong-listed pharmaceutical company for further product development and regulatory approval. The HKBU Technology Start-up Support Scheme for Universities (TSSSU) granted three-year funding worth HK\$2.95 million to Prof Wong for his innovative work. In 2017, he set up a start-up company—New Life Medicine Technology Company Limited—with the aim of promoting the application of scientific knowledge and supporting research work through profits ploughed back into the company. Within the first year of its establishment, New Life Medicine Technology received a major investment.

At the 47th International Exhibition of Inventions of Geneva, the prostate cancer detection kit technology won the Gold Medal with Congratulations of Jury and the Thailand Award for the Best International Invention. To recognise the broader impacts of his research, Prof Wong was also awarded the HKBU Innovation Award in 2019. He is now extending the influence of his outstanding research to the mainland China. In December 2018, a new research centre of New Life Medicine Technology Company Limited was established in the Healthcare Technology Park in Zhongshan to further develop new and innovative healthcare products.

成立企業 支持研究

前列腺癌檢測測試劑盒技術目前已在美國、歐洲、中國內地和台灣申請專利，並獨家授權予一家在香港上市的製藥公司，進一步開發產品，並尋求監管部門批准推出。有見於其創新研究，黃教授獲浸大科技初創企業資助計劃（TSSSU）批出為期三年、價值295萬港元資金。他於2017年成立新生命醫藥科技有限公司，不到一年旋即獲得一筆重大投資。黃教授解釋，成立公司一方面是希望將科研知識應用於生活層面，另一方面是希望可以透過公司盈利支持研究。

在2019年於瑞士舉行的第47屆日內瓦國際發明展上，前列腺癌檢測測試劑盒技術榮獲「評判嘉許特別金獎」和「泰國國家研究局國際最佳發明特別大獎」殊榮。為表彰其研究的傑出影響，黃教授更於2019年獲得浸大創新獎。現時黃教授正拓展其研究影響力至內地，新生命醫學技術有限公司就於2018年12月，在中山市健康科技產業基地成立一所新的研究中心，未來將繼續開發更多創新醫療產品。

Faster Data Transmission to Enable Record-breaking AI Training Speed

改良數據傳輸 促進AI訓練

The advancement of artificial intelligence (AI) is backed by the increasingly mature AI deep learning technology. However, as technology continues to advance, restrictions also need to be constantly addressed. Professor Chu Xiaowen from the Department of Computer Science at HKBU, has led AI training to new heights through research and breakthroughs in technology bottlenecks.

AI發展日新月異，背後得力於日趨成熟的AI訓練技術。然而，在技術持續進步的同時，必須不斷解決限制。浸大計算機科學系教授褚曉文便透過研究突破技術瓶頸，引領AI訓練達至新的高度。

In machine learning, data is analysed through mathematical methods to recognise patterns and draw rules to form statistical models. There are many parameters in the AI model. These are adjusted and tested constantly to obtain a usable model. Prof Chu pointed out that as processing power advances, larger amounts of data and parameters are processed, and the size of AI models keeps growing. In terms of the human language model, it takes about 100 days to train with the use of the current best Graphics Processing Unit (GPU), yet further tests and adjustments are required afterwards. It brings up a hypothetical question: if 100 graphic cards of the same processing power are used, is it possible to shorten the duration required to one single day? The primary focus of Prof Chu's research is to test this hypothesis.

The method of using multiple machines to perform AI training at the same time, and the information exchanges between machines through networking is known as "distributed machine learning". In reality, this method has limitations. Due to differences in the rate of development, networking speed is usually slower than processing speed. This gap has slowed down the entire training, and the slower rate of advances in communication across machines has created a bottleneck in AI development.

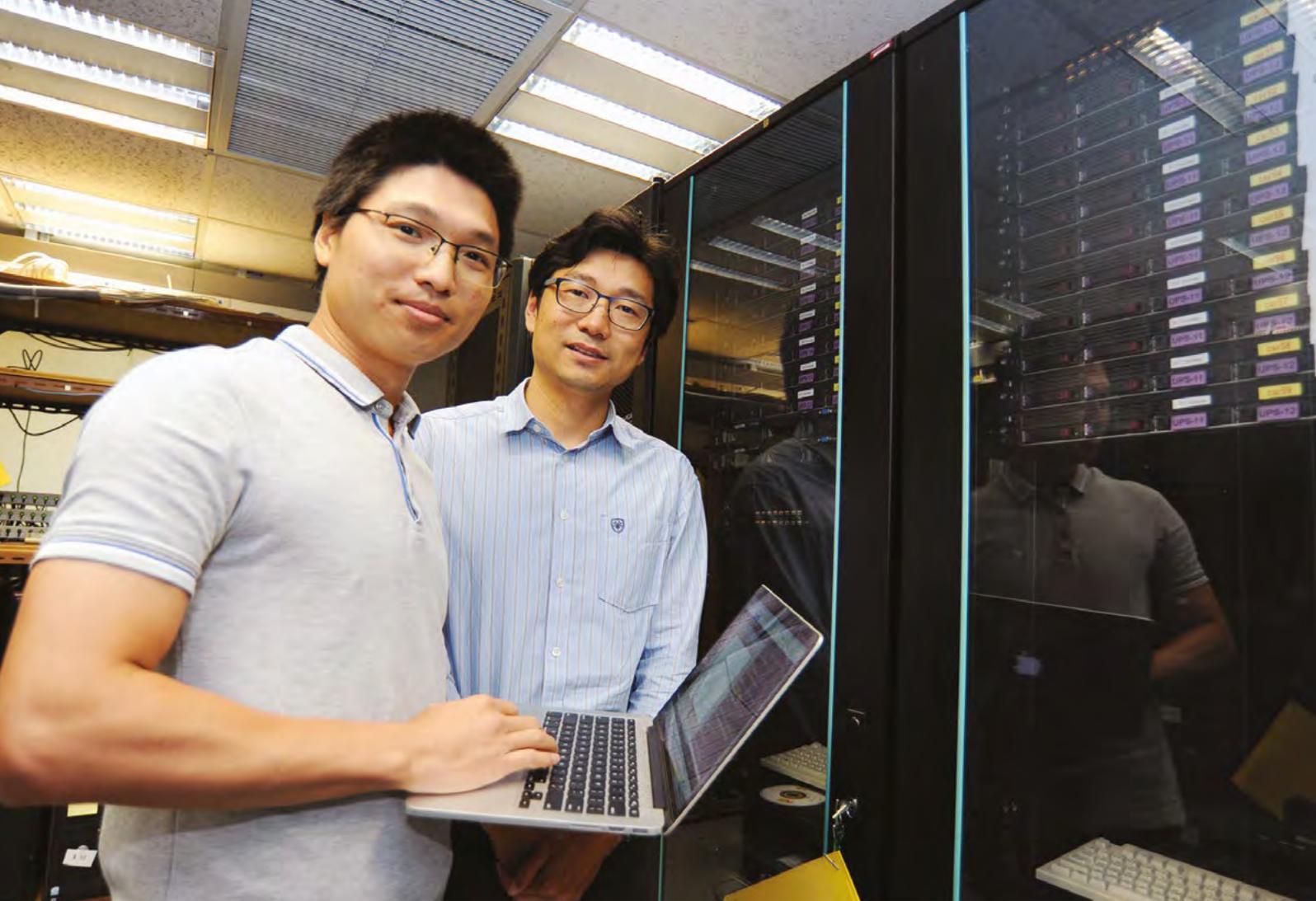
所謂AI訓練，就是通過數學方法分析數據，從而得出規則，形成AI模型。AI模型存在若干參數，在訓練之中，透過不斷調整參數進行調較與測試，從而得到一個可用的模型。褚教授指出，隨着數據處理能力越來越高，所處理的數據與參數越來越多，模型也越來越大。以人類語言模型而言，使用目前最強的圖形處理器（GPU）可能都需要100天才能完成，還未計及後尚需要不斷測試、調整。然而，如果使用100張顯示卡，是否就可能把上述工作壓縮在一天完成？褚教授的研究正正希望驗證，透過使用足夠數量的GPU，是否就可縮短AI訓練的時間。

使用複數機器同時進行AI訓練，機器間透過網絡進行資訊交流的方法稱為「分佈式機器學習」。但此方法在現實中存在限制：由於硬體發展進度有異，網路的速度慢於數據處理，因此成為目前發展上的瓶頸，機器間的通訊拖慢了整個訓練的速度。當GPU越多，通訊就越見複雜，導致大多數時間都用於通訊而非計算上。



Prof Chu
Xiaowen

褚曉文教授



Prof Chu (right) and his PhD student Mr Shi Shaohuai (left) | 褚教授 (右) 及博士研究生施少懷先生 (左)

Pipeline computing model improves efficiency

To tackle this problem, computer science researchers have proposed a “pipelined” transmission model which is applicable to distributed machine learning. Prof Chu explained that the basic idea is to let computing and communication happen at the same time. Because the parameters are calculated layer-by-layer, it is not necessary to communicate at the same time. However, the key issue is how the transmission of data is optimised in the process, i.e., how many layers of data should be stored before each transmission to optimise its efficiency.

Prof Chu and his PhD student Mr Shi Shaohuai studied the above question and found the theoretically optimal balance based on a mathematical formula. Through their innovative communication technique of “tensor fusion”, smaller pieces of data are combined into larger ones, improving the efficiency of communication during AI training. They published their findings at IEEE INFOCOM, one of the top conferences in computer networking. Last year, Prof Chu partnered with Tencent Machine Learning to research ways to maximise the AI training speed under current highest hardware specifications, i.e., 2,048 GPUs and 100Gbps network. As a result, the research team successfully broke the world record in training two popular deep neural networks, AlexNet and ResNet-50, to perform visual recognition. The AlexNet record was improved from 11 minutes to 4 minutes, while ResNet-50 was improved from 15 minutes to 6.6 minutes, both demonstrating a significant leap.

流水線計算模式提升效率

在計算機科學上，早有理論認為可試圖應用「流水線」式的傳輸模式於分布式機器學習上。褚教授解釋：「基本思想就是讓計算與通訊同時發生，因為參數分層進行計算，分步驟一層一層地進行，所以實際上不必要一次過進行通訊。」然而，理論終歸只是理論，實際應用效果如何卻未可知，當中最重要的是優化問題：到底儲存多少層才一次過傳輸最有效率？

褚教授及博士研究生施少懷先生聚焦研究上述問題，結果他根據數學方程式，找到理論上最佳的平衡。他透過「張量融合」(tensor fusion)的創新通訊方式，將大量小型的數據塊集成較大的組件，成功提升AI訓練的效率，並把研究成果發表於電腦網絡範疇的其中一個頂尖論壇IEEE INFOCOM。去年褚教授就與騰訊合作，把此理論付諸應用，研究如何在使用2,048張GPU，及現時最快的100GB網絡下進行AI訓練，把效能發揮至極致。結果在維持基準準確性的前提下，研究團隊成功打破AlexNet與ResNet-50兩種機器學習系統在辨別圖像方面的世界紀錄，其中AlexNet紀錄從11分鐘推前至4分鐘，ResNet-50則從15分鐘推前至6.6分鐘。

**“The pipeline model
lets computing and
communication happen at
the same time.”**

「流水線模式讓計算與通訊同時發生。」



Sparsification to reduce the total amount of data flow

In addition to the pipeline model, another means of speeding up data communication is to reduce the total amount of data that needs to be transferred. Prof Chu mentioned that two years ago, researchers proposed the concept of “sparsification”, which is a way to reduce data traffic by screening out important data for transmission. For example, among billions of parameters, only 1% of the values are transmitted. But then he found that even if each machine transmits 1% of the data, when the amount of GPUs reaches a certain amount, the data flow eventually becomes very large, and sparsification loses significant effect.

In contrast to “local sparsification”, which only focuses on the amount of data each machine transmits, Prof Chu believes that “global sparsification”, which controls the total amount of data in aggregation, is the more viable way to reduce the time for the entire communication. In this way, the total amount of data that needs to be transmitted can be decreased, thereby shortening the transmission time. According to their experiments, the sparsified AI training can be more than ten times faster than the un-sparsified counterparts. The more GPUs involved in the training, the more effective the process, also, the slower the network speed, the more significant the effect. “Therefore, even small companies can perform AI training using cheaper devices like workstations and personal computers. Start-up companies can make good use of this technology and provide clients with AI solutions in a reasonable time and at a relatively lower cost.” The above findings were shared at the International Conference on Distributed Computing Systems (ICDCS) and the International Joint Conferences on Artificial Intelligence (IJCAI), two of the top computer science conferences.

Prof Chu stated that sparsification still has a lot of room for development, and it is mathematically compatible with tensor fusion to achieve even faster speed. He is now researching ways to merge the two technologies together. He said that both technologies are highly versatile and can be applied to most AI training, helping to lower the hardware threshold so that more small and medium-sized companies can invest in AI training and bring about technological advancement.

稀疏化減少傳輸數據總量

流水線模式以外，另一個加快傳輸的面向是透過減少需要傳輸的數據量，從而加快速度。褚教授提到，兩年前已有研究者提出「稀疏化」的概念，藉篩選重要的數據傳送減少數據流量，例如在數以十億計的參數之中，只傳送當中的1%數值。但他發現，即使每部機器只是傳中當中1%的數據，當GPU達至一定數量，最終需要調校的数据還是變得很大，而稀疏化便失去顯著效果。

相對只着重各自傳輸多少的「局部稀疏化」，褚教授認為看重最終聚合時的數據總量的「整體稀疏化」才可以控制整個通訊所需的時間。透過此方法，便可以降低需要傳輸的數據總量，從而減少傳輸時間。根據其實驗，應用整體稀疏化的AI訓練可比之前快十倍以上。而且當GPU越多，稀疏化就越有效；網絡越慢，效果亦相對更顯著。「因此即使應用於小型公司，使用個人電腦等較便宜的設備，亦能進行AI訓練，讓初創公司也可以於短時間內，為客戶提供AI方案解決客戶公司的一些問題。」褚教授今年已在其中兩個頂尖的計算機科學會議International Conference on Distributed Computing Systems及International Joint Conferences on Artificial Intelligence中，發表上述研究成果。

褚教授表示，稀疏化具有很大的發展空間，而稀疏化與張量融合兩個技術在數學上證明可以同時應用，以達到更快速度，故目前正研究兩者如何融合。他直言，上述技術通用性高，可應用於大部分AI訓練，亦有助降低其硬件門檻，讓更多中小型公司也可投入AI訓練。

Ultra-hard ArmoGlass Protects Screens

鐵甲玻璃保護電話螢幕

Screens of electronic portable devices, such as smartphones and tablets, are prone to scratches, cracks and even breakage. ArmoGlass, invented by Professor Cheah Kok-wai, Associate Head and Chair Professor of the Department of Physics, is an ultra-hard, non-fragile and scratch-resistant material considered to be the best screen protector.

智能手機及平板電腦等流動裝置的螢幕容易刮花或因碰撞破裂。浸大物理系講座教授謝國偉研發出「鐵甲玻璃」，兼具耐碎與防刮兩大優點，可望成為螢幕最佳保護。

Sapphire is the second hardest material in existence. It is considered a good material for mobile device screens, but even though it is hard enough to prevent scratches, it is too fragile and cracks easily upon impact. The heavy weight and high cost of a sapphire screen renders it an unpopular option, while glass screens are prone to scratches. In view of this, Prof Cheah considered ways to strengthen the screen, but thought that hardened cover glass is not necessarily needed to enhance the hardness of glass. Rather, a hardened surface layer would be sufficient to provide extra protection, while retaining the property of flexibility. Thus, ArmoGlass was invented.

藍寶石是現有第二堅硬的物料，因此一度被視為製作流動裝置螢幕的理想物料。然而，儘管藍寶石很難被刮花，但因為易碎，在在電話掉落地上時卻未能提供足夠保護。此外，藍寶石螢幕尚有笨重與高昂成本兩大缺點，因此未能普及。對於如何提高螢幕的保護，謝教授卻有一個別開生面的想法。他認為，為螢幕配上高強度的防護玻璃實際上並非必要，只要在屏幕玻璃上加上一層硬度十足的薄膜，便可以在保留柔韌特性的同時，提供額外的保護。「鐵甲玻璃」便是基於上述理論誕生。





Prof Cheah Kok-wai
謝國偉教授



ArmoGlass
「鐵甲玻璃」

Second only to diamond in its hardness

ArmoGlass is a thin layer of sapphire coated on tempered glass. The layer is made of pure sapphire crystals, which are split into 1/1000th of its original size, and “plated” on the glass surface. The process is done at a high temperature using thin film technology. The sapphire layer, in a molecular state, is slowly deposited onto the glass surface, forming a thin but ultra-hard cover layer. Prof Cheah said that an 8.5-micron thick layer of coating is enough to guarantee excellent protection, comparable to the protection provided by a block of sapphire, with no downside of high fragility.

According to hardness tests, ArmoGlass exhibits 7 to 8.5 Mohs hardness, which is a level higher than tempered glass. It is also harder than sand and metal, thus it is not easy to scratch. Prof Cheah said, a screen with ArmoGlass is at least 50% to 60% harder than ordinary smartphone screens and can withstand abrasion caused by pencil or steel wool, which usually leaves scratches on tempered glass. The only material that can scratch an ArmoGlass coating is diamond, the hardest material in the world. Since optical transmission of the film is very near to that of glass, i.e., between 89% and 92%, application of the sapphire coating does not increase opacity. “In future, we will not need a plastic screen protector which is not environmentally friendly,” said Prof Cheah.

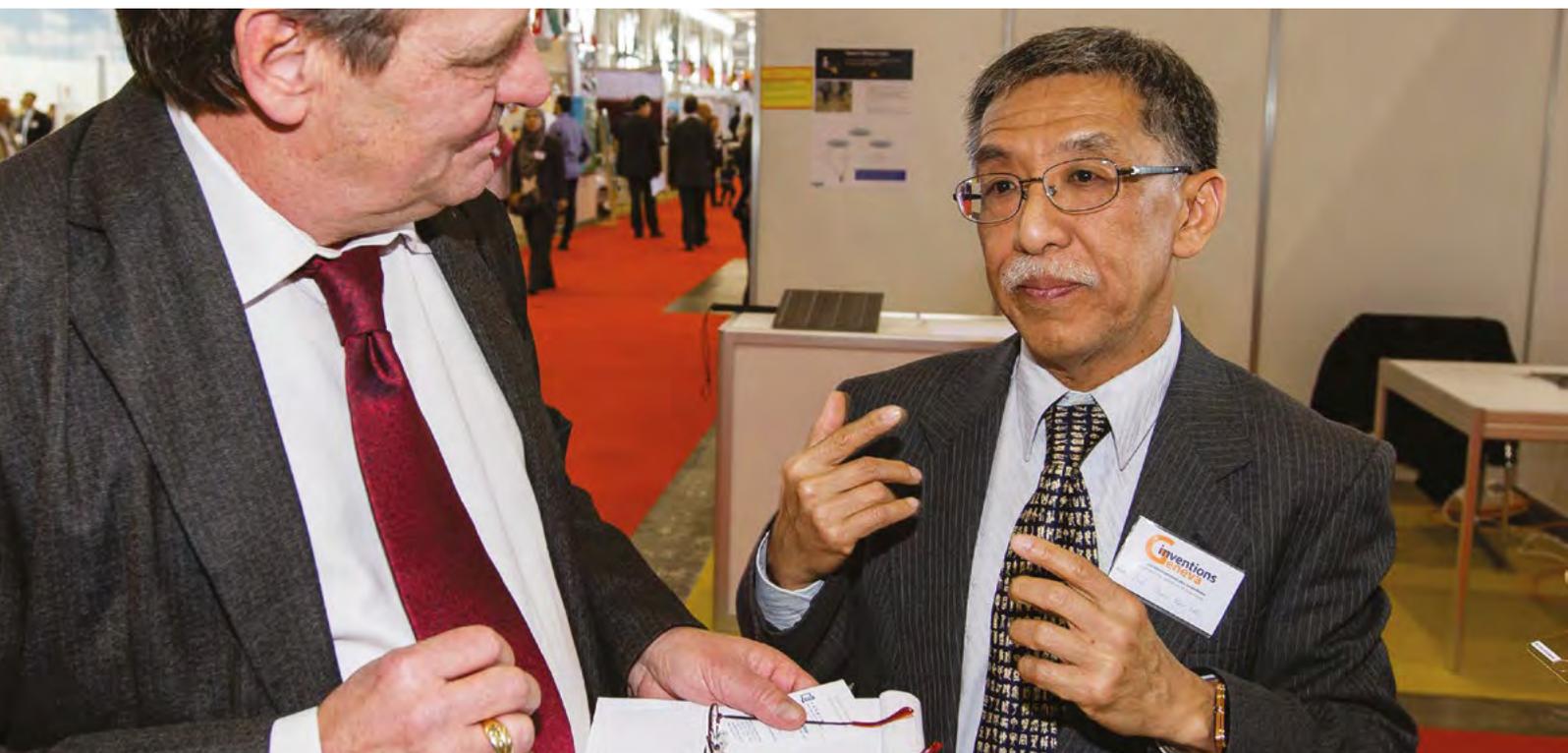
When it comes to commercialisation and industrialisation of new inventions, fabrication cost is a key factor. Bearing this in mind, Prof Cheah tried every possible means to minimise cost. Though the ArmoGlass coating is made of sapphire, the cost is very low because a small sapphire pellet (weighing around 20 grams) is enough to cover three to four glass screens. When taking into account the entire production cost of the screen, the cost of this layer is insignificant. Also, since the fabrication process is based on standard industrial deposition processes, no additional investment in new equipment is required.

硬度僅次鑽石

所謂鐵甲玻璃，其實是在鋼化玻璃之上，再加上一層纖薄的藍寶石塗層。該塗層是由純藍寶石晶體製成，晶體被分割成原始體積的千分之一尺寸，再鍍於玻璃表面。謝教授解釋，透過薄膜技術，分子狀態的藍寶石塗層在高溫下緩慢沉積在玻璃表面上，形成一層纖薄卻奇硬的保護層。一塊厚度8.5微米的塗層所提供的保護便足可媲美一塊藍寶石，同時亦沒有易碎的弱點。

根據硬度測量，鐵甲玻璃具有7至8.5莫氏硬度，表現更勝鋼化玻璃，亦比一般沙石及金屬的硬度更高，因此不易被刮花。謝教授表示，擁有鐵甲玻璃保護的屏幕比一般智能手機屏幕堅硬最少五成至六成。鉛筆與鋼絲擦很容易刮花鋼化玻璃表面，卻不容易在鐵甲玻璃上留痕。目前只有一種物質可以刮花鐵甲玻璃的表面，那就是鑽石——世上最堅硬的物質。此外，薄膜的光線穿透率介於89%及92%之間，與玻璃非常接近，因此加上薄膜不會降低透明度，影響流動裝置使用。謝教授預期，有了這項發明，不利環境的屏幕保護貼將被逐步淘汰。

製造成本是新發明能否商業化及工業化的重要考慮，謝教授在研究中考慮到這個重要因素。雖然鐵甲玻璃塗層由藍寶石製成，但他指出，成本實際上非常低：「因為一顆細小的藍寶石（重約20克）已可鍍成最少三至四塊薄膜。整個新設計而言，成本只是微不足道。」他續指，由於鐵甲玻璃的製作只需要標準工業薄膜沉積技術，因此只需微調現有機器即可投入生產，毋須投資額外設備。



Prof Cheah introduces ArmoGlass at the 44th International Exhibition of Geneva | 謝教授於第44屆日內瓦國際發明展上介紹鐵甲玻璃



The Hon Leung Chun-ying (seventh from right), then HKSAR Chief Executive, congratulates Prof Cheah for winning the Grand Prix International Invention Award
時任行政長官梁振英先生（右七）恭賀謝教授榮獲全場最高榮譽大獎

Highest honour received at Geneva

As a result of the revolutionary product, Prof Cheah received HK\$3.24 million from the HKSAR Government via the Innovation and Technology Commission to establish the start-up company Cathay Photonics Limited (CPL). Prof Cheah and CPL participated in the 44th International Exhibition of Inventions of Geneva and won the Grand Prix International Invention Award, the Special Award from the Romanian Association for Nonconventional Technologies and a Gold Medal (with Judge Commendations) in the Industrial Processes category. The judges praised the innovative technology for its wide range of applications, saying “all kinds of glass surfaces can be treated, even rounded ones, such as those on watches or televisions.” Indeed, Prof Cheah and his research team are currently developing sapphire coating for metal surfaces. He added that it can also be applied on plastics.

ArmoGlass has now obtained about 10 patents from around the world. Several international high-tech smartphone, watch, and glasses manufacturers are currently collaborating with CPL to implement the technology in various products. It is foreseeable that the application of ArmoGlass will be extended to an even wider range of goods. In view of this, CPL's market value has already exceeded HK\$200 million.

享譽日內瓦

由於此種革命性新發明，謝教授獲創新科技署提供324萬港元資金，創辦國泰光電有限公司。謝教授與國泰光電參與2016年於瑞士舉辦的第44屆日內瓦國際發明展，並憑鐵甲玻璃榮獲全場最高榮譽大獎、工業製作組金獎和特別優異獎。評審讚揚此創新科技用途廣泛，任何玻璃表面皆可應用，即使是手錶與電視的圓面玻璃亦不例外。據謝教授所述，藍寶石塗層不僅可鍍於玻璃表面，其實亦可鍍於塑膠之上。研究團隊目前正積極研究在金屬表面添加藍寶石塗層，可以預見該創新發明日後將有更廣闊應用範圍。

鐵甲玻璃至今已獲得約10項專利，多家國際智能手機、手錶、眼鏡製造商目前正與國泰光電合作，以在各種產品中應用該技術。基於鐵甲玻璃的廣泛應用可能，國泰光電的市值現時已升至超過2億港元



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Knowledge Transfer Partnership Seed Fund
知識轉移合作種子基金



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