



Faculty of
Applied Science & Textiles
應用科學及紡織學院

NEWSLETTER

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Opening Minds • Shaping the Future • 啟迪思維 • 成就未來

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Welcome to the seventh issue of the FAST newsletter!

First of all, I would like to take this opportunity to extend our warmest congratulations to Prof. Wing-tak WONG, our previous Dean, on his recent new role as the University's Deputy President and Provost. Also, I have the pleasure to express our utmost gratitude to Prof. Wong for his leadership and dedication contributing to the Faculty's robust development in the past years.

Since the beginning of 2020, our teaching, research, and daily lives have been severely affected by the COVID-19 pandemic. However, neither our faculty members nor our students have faltered in their dedication to learning and research. Inspired by the motto of the University, "to learn and to apply, for the benefit of mankind", we are committed to tackling the problems brought by COVID-19, working alongside other stakeholders in society.

FAST scholars have spared no effort in advancing research to address various pandemic-related issues. This newsletter introduces four key research projects of Faculty members: self-cleaning gowns, the mathematical modelling of pandemic-related data, a novel technique for virus detection, and antiviral and reusable face masks. We are delighted to enclose a PU30™ face mask, one of the Faculty's research outputs, with each printed version of this newsletter.

歡迎閱讀應用科學及紡織學院第七期學院通訊！

首先，我想藉此機會恭賀本院前任院長黃永德教授新任為理大常務及學務副校長，並感謝在他的領導下，本院在過去數年穩健發展。

雖然2019冠狀病毒自年初至今一直肆虐全球，我們的教學、工作和生活都受到嚴重影響，但是學院師生並沒有停下學習和研究的步伐。面對疫情，我們攜手發揮所長，奮力向前，本著理大「開物成務·勵學利民」的精神，與社會各界一起解決峻疫情所帶來的問題。

學院的研究學者針對疫情努力不懈進行研究。本通訊將為大家逐一介紹有關自潔實驗袍、疫情數據數學模型、病毒檢測技術以及可重用抗病毒口罩的研究。我們也趁此機會隨本刊印刷本附送PU30™口罩乙個予各讀者試用。

The pandemic has cast a devastating impact on the global economy. To help our fresh graduates find jobs in a diminished market, the Faculty has launched a Graduate Executive Programme and offered them with 6-month placements in four departments to better equip graduates to overcome upcoming challenges in their career paths.

So far, 2020 has been a year full of challenges. However, we hope that we can come together to develop innovative and flexible solutions to the problems we face. Once the pandemic has been brought under control, economies and societies worldwide are expected to resume their former pace of development.

I send my heartfelt wishes for good health and happiness to you all and your families in this winter festive season.

Prof. Wai-yeung WONG, Raymond,

Clarea Au Professor in Energy

and Chair Professor of Chemical Technology,

Interim Dean, Faculty of Applied Science and Textiles

另外，鑑於疫情重擊全球經濟，學院推出了「畢業行政人員計劃」，安排部份應屆畢業生於四個學系進行為期半年的工作，務求減輕應屆畢業生的求職壓力，並希望讓畢業生為應對日後工作挑戰進一步裝備自己。

2020年是充滿挑戰的一年。期望大家可以一同努力，齊心迎難而上、踴躍創新、靈活應付種種考驗，讓疫情得以受控，社會經濟可以盡快重回正軌，恢復發展。

在這冬日佳節裡，我衷心祝願各位與家人健康愉快。

應用科學及紡織學院暫任院長

歐雪明能源教授及化學科技講座教授

黃維揚教授

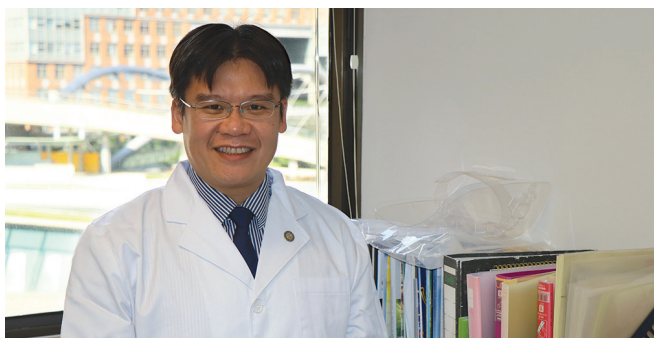
An Antimicrobial and Self-Cleaning Gown to Protect Those Most at Risk

— Interview with **Dr Ka-fu YUNG, Joseph**

Associate Professor & Associate Head, Department of Applied Biology and Chemical Technology

As the COVID-19 pandemic continues to claim lives and wreak havoc on healthcare systems across the globe, it is essential to uphold public hygiene at every level, from the household to the workplace. Stringent cleaning and disinfection measures can help to reduce the risk of spreading the virus and protect people until an effective vaccine is found.

With this in mind, **Dr Ka-fu YUNG, Joseph**, of the Department of Applied Biology and Chemical Technology and his team set out to fill a critical gap in COVID-19 research. We know that the COVID-19 can survive on fabrics for up to 24 hours, creating a high risk of infection. However, whilst liquid disinfectants such as bleach are widely used on hard and non-absorbing surfaces, porous surfaces like textiles require a different approach. “The instant and simple disinfection of clothes, uniforms, curtains, etc.,” says Dr Yung, “is needed to provide stronger protection for the public.”



Laboratory coats carry a particular risk for students, teachers and technicians. Washing them after each use is costly and time-consuming, and may even lead to cross-contamination. In teaching laboratories, close contact between students and demonstrators further increases the infection risk. To help safeguard students, Dr Yung and his team will capitalise on the unique properties of textiles to develop and test a laboratory gown with antibacterial, anti-stain and self-cleaning functions.

This will build on important work already done by the researchers, who recently used zinc oxide based nanomaterials to develop a robust antimicrobial treatment for cotton-based fabric. This treatment not only works against various bacteria, but also shows substantial antiviral activity towards H1N1, which is similar to the virus that causes COVID-19. Even better, the nanomaterials serve as a photocatalyst that accelerates the breakdown of organic compounds by absorbing UV radiation. Therefore, explains Dr Yung, “an anti-stain and self-cleaning process will be automatically performed when the laboratory gown is exposed to in-house light”.

Dr Yung and his team will produce and trial 1,000 proposed gowns, with the assistance of Prince Philip Dental Hospital. The data they collect will allow them to take another step on the path towards substantially enhancing the safety of all clinical students receiving hands-on laboratory training in the COVID-19 era.

抗菌自潔實驗袍 提供更佳抗疫保障

— 容家富博士專訪
應用生物及化學科技學系副教授兼副系主任

2019冠狀病毒的疫症大流行繼續肆虐全球，造成人命損失並衝擊醫療系統，我們實在有必要從家居至工作上的每一個層面謹守公眾衛生。在有效疫苗面世前，嚴格的清潔和消毒措施有助減低病毒傳播風險，保障人類安全。

有見及此，應用生物及化學科技學系**容家富博士**及其團隊隨即展開工作，務求填補有關2019冠狀病毒防護的關鍵缺口。據研究顯示，2019冠狀病毒可於布料上存活長達24小時，這將大大提高其社區感染風險。雖然漂白水等液體消毒劑一般可有效而快速地消毒不吸水的硬表面，但紡織物等透水表面卻需要另一種處理方法。容博士表示：「我們需要一種能為

衣物、制服、窗簾等紡織物進行簡單且即時的消毒方法，才可為公眾提供更強的防疫保護。」

實驗袍對學生、老師和技術員來說有一定的風險，因為每次使用後都進行水洗不但花錢耗時，也可能引至交叉感染。學生和研究人員在教學實驗室的密切接觸也會進一步增加感染風險。為守護同學，容博士和他的團隊將利用織物獨有的特質，研發出一款具有抗菌、防污漬和自潔功能的實驗袍，並為其進行測試。

研究團隊最近研發出以鋅氧化物為基礎的納米物料於綿質布料上進行的強效抗菌處理。這種處理不但可以對抗各種細菌，同時對與2019冠狀病毒相似的H1N1，具備高度的抗病毒活性。當中的納米物料更可同時用作光催化劑，透過吸收紫外光而加快分解有機化合物。容博士解釋指：「當實驗袍曝露於室內光線時，防污自潔的程序便會自動進行。」

在菲臘牙科醫院的協助下，容博士和團隊將生產及試用1,000套新研發的實驗袍。試用時將收集數據支持下一步的研究，持續提升學生在疫情下於實驗室的安全。

A Way Forward through Mathematical Modelling

– Interview with **Dr Daihai HE**
Associate Professor, Department of Applied Mathematics

To control an infectious disease, we must first understand it. Since the outbreak of COVID-19, epidemiologists have raced to develop mathematical models of the transmission and spread of the COVID-19, seeking to formulate policy responses and ultimately define interventions to contain the disease. Speed and accuracy are of the essence, given the contagiousness of the virus and its devastating impact on human lives and livelihoods.

At the forefront of these efforts is **Dr Daihai HE** of the Department of Applied Mathematics, whose team has received wide acclaim for generating some of the earliest

accurate figures on COVID-19 transmission. By 24 January 2020, within just a month after the outbreak, Dr He and his team had estimated the disease's basic reproductive number to a high level of accuracy, in a paper later cited by the Chinese Center for Disease Control and Prevention. As this metric allows us to predict how quickly COVID-19 will spread, it has crucial implications for public health measures, such as social distancing and hospital bed supply.

Since the start of the pandemic, Dr He has published more than 30 papers on COVID-19 transmission, which have attracted considerable attention from academia, the media and policy makers. These papers build on his rich experience of state-of-the-art mathematical modelling and data analysis, and share with his earlier work a keen interest in human behaviour in response to infectious diseases.

His jointly authored paper on the typhus epidemic in the Warsaw Ghetto during World War II, for example, has attracted massively renewed attention in the wake of the pandemic. "Although it is not COVID-19 related, it is a story about humans beating an infectious disease in extreme conditions," explains Dr He. The threat posed by the COVID-19 may be unprecedented, but as Dr He's research shows, mathematical calculation and analysis have great power to chart a way forward.



透過數學模型研究 向前邁進

— 何岱海博士專訪
應用數學系副教授

要控制一種傳染病，我們必須對它有透切瞭解。自2019冠狀病毒疫情爆發以來，流行病學專家便一直與時間競賽，希望透過建立數學模型對疫症傳播和擴散作研究，為制訂對策提供全面的數據分析，從而推行有效控制疫情的措施。鑑於2019冠狀病毒的傳染性極高，造成大量死亡個案，嚴重破壞民生，故其數學模型研究的速度和準確度均極其重要。

應用數學系的**何岱海博士**是上述工作的先行者，他的團隊因為最早發表有關2019冠狀病毒的準確數字而獲得廣泛認同。早於本年1月24日，即疫情爆發的一個月後，何博士和團

隊便已高度準確地推算出疾病的基本繁殖率，論文及後更獲中國疾病預防控制中心引用。這項數據讓我們得以預測2019冠狀病毒的傳播速度，對制訂保持社交距離和病床供應等公共衛生措施起了重大的參考作用。

在疫情爆發初期，憑藉多年來豐富的數學建模及數據分析經驗，配合其早期就人類應對傳染病的研究，何博士已就2019冠狀病毒的傳播發表了超過30篇論文，吸引了學界、媒體和決策者的高度關注。

早前何博士一篇以第二次世界大戰時華沙貧民窟傷寒流行病為研究主題的合撰論文，隨著疫情的發展再度引起大量關注。何博士表示：「雖然文章與2019冠狀病毒無關，它卻是一個關於人類在極端環境下對抗傳染病的研究。」2019冠狀病毒所引發的威脅也許前所未有，但正如何博士的研究顯示，數學計算和分析對於前路何去何從有著重大的啟示。

A Ground-breaking Technique for Detecting Lethal Viruses

– Interview with **Prof. Jianhua HAO**
Professor & Associate Head, Department of Applied Physics
and **Prof. Mo YANG**
Professor, Department of Biomedical Engineering

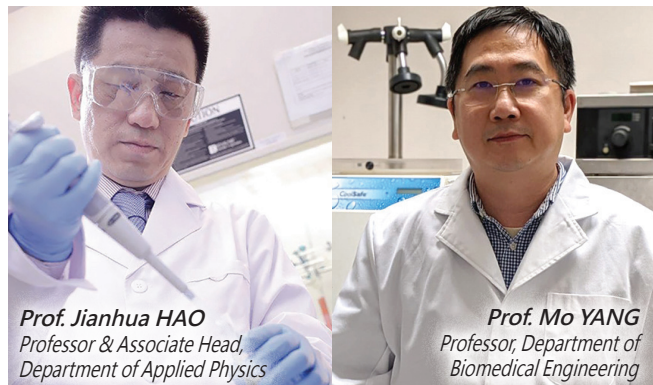
Testing for the novel coronavirus offers a powerful weapon in the fight against COVID-19. Detecting this lethal virus at an early stage allows appropriate measures – such as treatment, isolation, or hospitalisation – to be implemented swiftly, minimising the risk to others and ultimately slowing the spread of the disease. However, conventional virus detection methods have significant drawbacks. They are usually expensive, time-consuming, and labour-intensive, and test for only one pathogen at a time.

To solve these problems, **Prof. Jianhua HAO** of the Department of Applied Physics and his team have collaborated with **Prof. Mo YANG** of the Department of Biomedical Engineering to develop a ground-breaking technique for rapidly detecting multiple epidemic viruses at an early stage and on site. Their ultrasensitive new biosensor, which won a U.S. patent in 2019, is based on a new class of materials called upconversion nanoparticles. It is more than 10 times quicker than traditional clinical methods, at only a fraction of the cost, and its portability makes it an extremely convenient point-of-care technique.

Most importantly of all, this novel biosensor offers a powerful universal strategy for virus detection, which can be easily adjusted to detect a wide range of pathogens. It has already been tested with avian influenza viruses and oligonucleotides

of Ebola virus, and will offer a consistently effective approach to COVID-19 detection even as SARS-CoV-2 mutates.

Imagine that a patient arrives at a hospital presenting with flu-like symptoms. Distinguishing influenza from COVID-19 by clinical examination is nearly impossible, and distinguishing between flu viruses is more difficult still. Prof. Hao's technique will allow professionals to simply and swiftly pinpoint and isolate carriers of the COVID-19, safeguarding others and relieving pressure on hospital admissions. Looking at the bigger picture, the ability to obtain high-quality data conveniently, quickly and at a low cost will help scientists and policy makers to predict – and ultimately contain – the spread of the disease.



Prof. Jianhua HAO
Professor & Associate Head,
Department of Applied Physics

Prof. Mo YANG
Professor, Department of
Biomedical Engineering

一種突破性的 致命病毒檢測技術

— 郝建華教授及
應用物理學系教授兼副系主任

— 楊莫教授專訪
生物醫學工程學系教授

新型冠狀病毒測試是對抗疫情的強大武器。能及早檢測出這種致命病毒，便可迅速採取治療、隔離或入院等適當措施，把傳染其他人的風險降至最低，實現減慢疫情擴散的終極目的。然而，傳統的病毒測試方法有很多嚴重不足之處，通常價錢高昂、需時甚長，而且需要動用大量人手，每次更只能測試一種病原體。

為解決這些難題，應用物理學系**郝建華教授**與他的團隊聯同生物醫學工程學系的**楊莫教授**，攜手研發出一種革命性的快速測試技術，能於初期即場為多種流行疫病病毒進行測

試。他們的全新生物傳感器擁有極高的敏感度，並於2019年取得一項美國專利。技術以一種名為上轉換納米粒子的新型物料為基礎，測試速度比傳統臨床方式高出超過10倍，而成本則只是舊有方法的一小部份。加上可攜性高，是一種極為方便的即時檢測技術。

而最為重要的，是這項創新的生物傳感器為病毒檢測提供一套強效的普及策略，只需稍作調整便能檢測出多種病原體。技術已於禽流感病毒和伊波拉病毒的寡核苷酸上進行測試，且能就2019冠狀病毒，甚至是SARS-CoV-2的變種提供一致度高的有效檢測方法。

試想像當病人帶著類似流感的病徵來到醫院，以臨床檢查的方法分辨流感和新冠肺炎幾乎是不可能的事情，要分辨出不同的流感病毒更是難上加難。郝教授的技術讓專業人員可以簡單快捷地準確判斷，即時隔離2019冠狀病毒帶菌者，守衛其他人之餘也舒緩了醫院的收症壓力。總的來看，能夠快速、方便地以低成本獲取高質素數據的能力，將有助科學家和決策者預測疫情的擴散，最終令其受控。

A Pioneering Face Mask Accessible to All

– Interview with Dr Joanne YIP

Associate Professor, Institute of Textiles and Clothing; and Associate Dean (Industrial Partnership), FAST

With an effective vaccine still some way off, face masks offer an affordable and effective tool in the fight against COVID-19, which has already claimed more than 1.15 million lives. When worn correctly, a simple disposable or cloth mask can block droplets that are launched from the mouth and nose while talking, coughing, or sneezing – one of the main routes of transmission of this highly infectious virus.

However, some face masks are more effective than others. With production ramping up worldwide to meet unprecedented demand, and huge volumes of discarded masks already washing up on shorelines, **Dr Joanne YIP** of the Institute of Textiles and Clothing (ITC) recognised the urgent need for an affordable and environmentally friendly alternative. She is part of a team responsible for an innovative project conducted to develop a high-performing antiviral, washable and reusable mask registered as PU30™.

Drawing on the rich expertise of ITC, the team tested various textiles to find the optimal combination for their three-layer mask. The cotton outer layer has an antibacterial and water-repellent coating that allows the mask to be washed and reused as many as 30 times. The middle layer is PTFE nano-fibres membrane with outstanding filtration efficiency. Against the skin, a cotton and Lycra blend offers both comfort and water absorption. Together, these layers reduce viral particle intake and bacterial spraying while coughing by more than 99%.

領先創新的全民口罩

— 葉曉雲博士專訪
紡織及服裝學系副教授
應用科學及紡織學院副院長 (企業協作)

2019冠狀病毒至今已奪去超過115萬人的生命，在疫苗尚未面世的時候，口罩就是在抗疫戰上有效而大部份人可負擔的工具。只要正確配戴，一個簡單的即棄式或布製口罩便能阻擋說話、咳嗽或打噴嚏時噴發的飛沫，切斷這種傳染力極高病毒的其中一條主要傳播路線。

然而，有些口罩的功能會比其他產品高。現時全球各地都在擴大產量來滿足前所未有的需求。結果，大量被棄置的口罩已紛紛在海岸線湧現。紡織及服裝學系的**葉曉雲博士**意識到我們急需價錢合理而又顧及環保的其他選擇。她的團隊所進行的創新研究，便開發出一款高效能防病毒、可清洗、能重用的口罩，註冊商標為PU30™。

The team's next step was to test their design. Cooperating with Hong Kong Sheng Kung Hui Welfare Council Limited, they recruited sewing workers who were unemployed due to COVID-19. Undergraduates in fashion disciplines also had the chance to put their knowledge into practice by sewing, testing and even marketing the new masks. Up to September 2020, 30,000 PU30™ masks were donated to the community including local schools and elderly centres.

This not only benefited those in need, but also enabled the ITC team to refine their design. "Based on users' feedback, we are continuously improving our mask," explains Dr Yip. The latest versions come in fashionable colours and digital prints, and some are three-dimensional, offering an enhanced fit and thus greater safety. As the pandemic continues, the team's pioneering research will undoubtedly find many more applications in personal protective equipment and beyond.



團隊憑藉紡織及服裝學系豐富的專業知識，已完成了多種物料的測試，為他們的三層口罩找出最優化的組合。棉質的外層表面是抗菌防水塗層，讓口罩可以清洗重用多達30次。中間一層是PTFE納米纖維薄膜，擁有超卓的過濾效能。而緊貼皮膚的一層，則結合了棉和萊卡，做出舒適而吸濕的效果。這三層物料能共同發揮作用，減少吸入帶有病毒的粒子，也可阻隔咳嗽時噴出的細菌，有效程度超過99%。

接下來，團隊需要為設計進行測試。他們與香港聖公會福利協會有限公司合作，招募了因為疫情而失業的車衣工人。學系的時裝本科生也有機會學以致用，一同參與了新口罩的縫製、測試和營銷工作。截至2020年9月，已有3萬個PU30™口罩捐贈到本地社區，當中包括學校和老人中心。

口罩不但惠及有需要人士，也讓紡織及服裝學系團隊得以完善設計。葉博士解釋：「我們根據用家回饋不斷改進口罩。」最新版本備有時尚的色彩和數碼印刷圖案，部份更採用了3D立體設計，令口罩更加貼面和更安全。隨著疫情持續，團隊的創新研究毫無疑問可應用於更多個人保護設備，甚至其他用途上。



In collaboration with PolyU's Institute for Entrepreneurship (IfE), FAST hosted its first Workshop on Knowledge Transfer Activities for FAST colleagues on 25 August 2020. The response was overwhelming. More than 100 researchers joined this half-day workshop via Zoom.

Following the recent establishment of its Knowledge Transfer Steering Committee, PolyU has actively formulated effective knowledge transfer (KT) strategies and reviewed policies and regulations to encourage KT activities amongst PolyU researchers. The aim of this workshop was to help FAST researchers better prepare for opportunities ahead and contribute to the University's key strategic objective for KT, i.e. to deepen University–community collaboration for greater synergy and impact.

We were honoured to have our Executive Vice President, Dr Miranda LOU, to kick off the workshop by introducing the latest directions and support from PolyU senior management.

Experts from PolyU and the industry shared their practical experience of translating research breakthroughs into transformational products, services and solutions by patenting technologies and encouraging licensing to drive commercialisation. Representatives of IfE and the Innovation and Technology Development Office pledged their support for PolyU's KT activities, which include IP commercialisation, entrepreneurship development and patent applications. Our researchers shared their experience of establishing startups and the difficulties they had encountered in the process. We were also glad to welcome guest speakers from the Hong Kong Science and Technology Parks Corporation and the private sector to share with the audience various funding opportunities and offer tips on securing seed funding/venture capital from investors' perspective.

Please refer to more on our speakers' wisdom by viewing the videos and presentations of the workshop at FAST's website.

Donation from Lee Hysan Foundation to support the “Healthy Spine Project” spearheaded by ITC

Lee Hysan Foundation (LHF) spares no effort to support meaningful projects contributing to Hong Kong's well-being. Recently, with staunch support from LHF, the PolyU-led “Healthy Spine Project” was launched. This project entails the development and community application of non-surgical treatments for adolescents (10–15 years old) with mild to moderate adolescent idiopathic scoliosis (AIS). Currently, the prevalence of AIS in Hong Kong is 2.5%, which is higher than the overall global prevalence of 1.34%. It is ranked as the third most common health problem among students in Hong Kong. Early intervention is crucial to prevent deterioration. However, existing interventions are fairly physically restrictive. To solve this problem, the “Healthy Spine Project” was launched. A multi-disciplinary team led by Dr Joanne YIP, Associate Professor of the Institute of Textiles and Clothing and Associate Dean (Industrial Partnership) of the Faculty of Applied Science and Textiles, collaborates with researchers

from The University of Hong Kong and The Chinese University of Hong Kong to develop more effective treatment products to cope with AIS.

The project will provide AIS screening for 4,500 students and early intervention for 110 students with mild to moderate AIS, applying three novel locally developed functional and wearable medical garments that combine advanced materials and textile and garment technologies with the innovative use of sensors. Ultimately, these three products will be commercialised after conducting a pre-clinical trial in the community, transforming a Hong Kong based research innovation into practice for the benefit of society.



應用科學及紡織學院 知識轉移活動研討會

應用科學及紡織學院與理大企業發展院合辦的知識轉移活動研討會，於2020年8月25日圓滿舉行。是次活動以Zoom進行，吸引了逾100位學院教職和科研人員。與會者反應熱烈，踴躍與講者在線上交流。



為積極制訂有效的知識轉移策略，並審視現有政策和法規，藉以鼓勵理大研究人員開展知識轉移活動，理大於本年成立了知識轉移督導委員會。是次研討會旨在協助學院的教職及科研人員為未來機遇做好準備，投入參與大學知識轉移的策略目標及加深大學與社區合作，務求產生更大的協同作用和影響。

於研討會上，理大行政副校長盧麗華博士介紹了理大對知識轉移活動的策略方針和最新政策。來自不同領域的校內（如企業發展院、創新及科技發展處）及校外（如香港科學園）的專家也於會上分享了實踐經驗，解構如何以專利技術和推動商業化來鼓勵將研究突破，再轉化為變革性的產品、服務和解決方案。

研討會的視頻和簡報已上傳至學院網站，歡迎瀏覽。



紡織及服裝學系 「Healthy Spine Project」 獲利希慎基金資助

利希慎基金（基金）素來不遺餘力地在促進對香港有貢獻的研究項目。在基金的大力支持下，理大最近開展了名為「Healthy Spine Project」的研究項目，研發針對年齡介乎十至十五歲的輕微至中度青少年原發性脊椎側彎（AIS）患者，旨在為他們提供非手術治療產品，同時將產品帶進社區。現時，香港的AIS發病率為2.5%，高於全球的1.34%，在香港學生常見疾病中排行第三位。儘管及早介入治療能有助預防病情惡化，目前的治療方案均為患者的活動能力帶來不少限制。有見及此，紡織及服裝學系副教授及應用科學及紡織學院副院長（企業協作）葉曉雲博士與理大多個科研領域的專家，聯同香港大學和香港中文大學組成跨學科研究團隊，在「Healthy Spine Project」研究項目中開發更有效治療AIS的相關產品。

項目將為4,500名學生進行AIS篩查，同時透過應用三項本地研發的治療產品，為110名患有輕微至中度AIS的學生提供早期介入治療。產品以嶄新的紡織及縫製技術，結合先進物料及感應器，有望於完成社區臨床前試驗後投入生產及推出市面，以香港創新科研貢獻社會。

FAST Online Mini-lecture Series 2020

The FAST Mini-lecture Series is designed to enhance secondary school students' knowledge of and interest in fashion and textiles, as well as sciences more broadly. Given the unpredictable development of the COVID-19 pandemic, the mode of delivery switched from face to face to online on Saturdays between 17 October and 19 December 2020. The lectures cover a wide spectrum of inspiring topics related to everyday life, such as "What is the difference between 'fast fashion' and 'slow fashion'?" and "How does global warming change our living environment?" We are thrilled to have more than 980 participants from over 120 secondary schools have joined the lectures covering 28 topics.



應用科學及紡織學院： 網上專題講座系列 2020

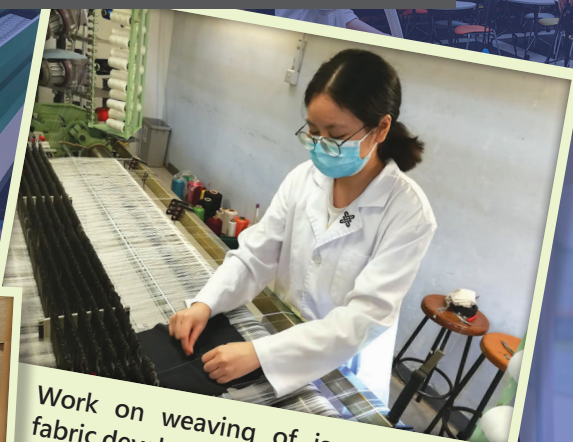
10月17日至12月19日期間，應用科學及紡織學院舉辦了一系列專為啟發中學生而設的周六網上講座，鼓勵同學積極探索科學及時尚紡織世界。受疫情影響，學院把以往的面授形式改以網上教學方式進行。專題講座涵蓋28個與生活息息相關的題目，觸及衣、食、住、行，包括「速食與慢享時裝」及「全球暖化如何影響生態與居住環境？」等，吸引了超過980位來自約120間中學的同學及老師踴躍參加。



Shoot and produce videos on food science



Shoot and produce videos for experiment demonstration



Work on weaving of jacquard loom, fabric development and finishing

FAST Summer Student Internship Sponsorship Programme

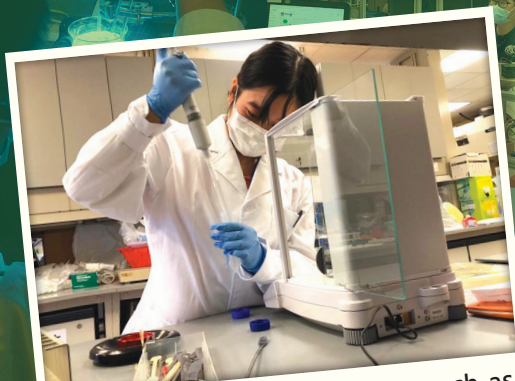
As opportunities for summer internships and graduate jobs this year were limited due to the impact of COVID-19, FAST provided sponsorship to create jobs within the Faculty for student interns. In addition, its Graduate Executive Programme helped fresh graduates to cope with the transition from study to work. 74 FAST students and 26 fresh graduates were recruited under these programmes

and

應用科學及紡織學院「暑期學生實習計劃」及「畢業行政員計劃」

受疫情影響，暑期實習和畢業工作的機會較往年緊張。有鑑於此，學院於本年推出了「暑期學生實習計劃」以及「畢業行政員計劃」，希望藉此增加學生的實習機會，並協助畢業生應對從大學投身職場的挑戰。兩個計劃分別聘用了本院74名學生和26名應屆畢業生。

Graduate Executive Programme



Participate in research projects such as extraction/purification of plant materials and LC-MS analysis, marine pollution monitoring



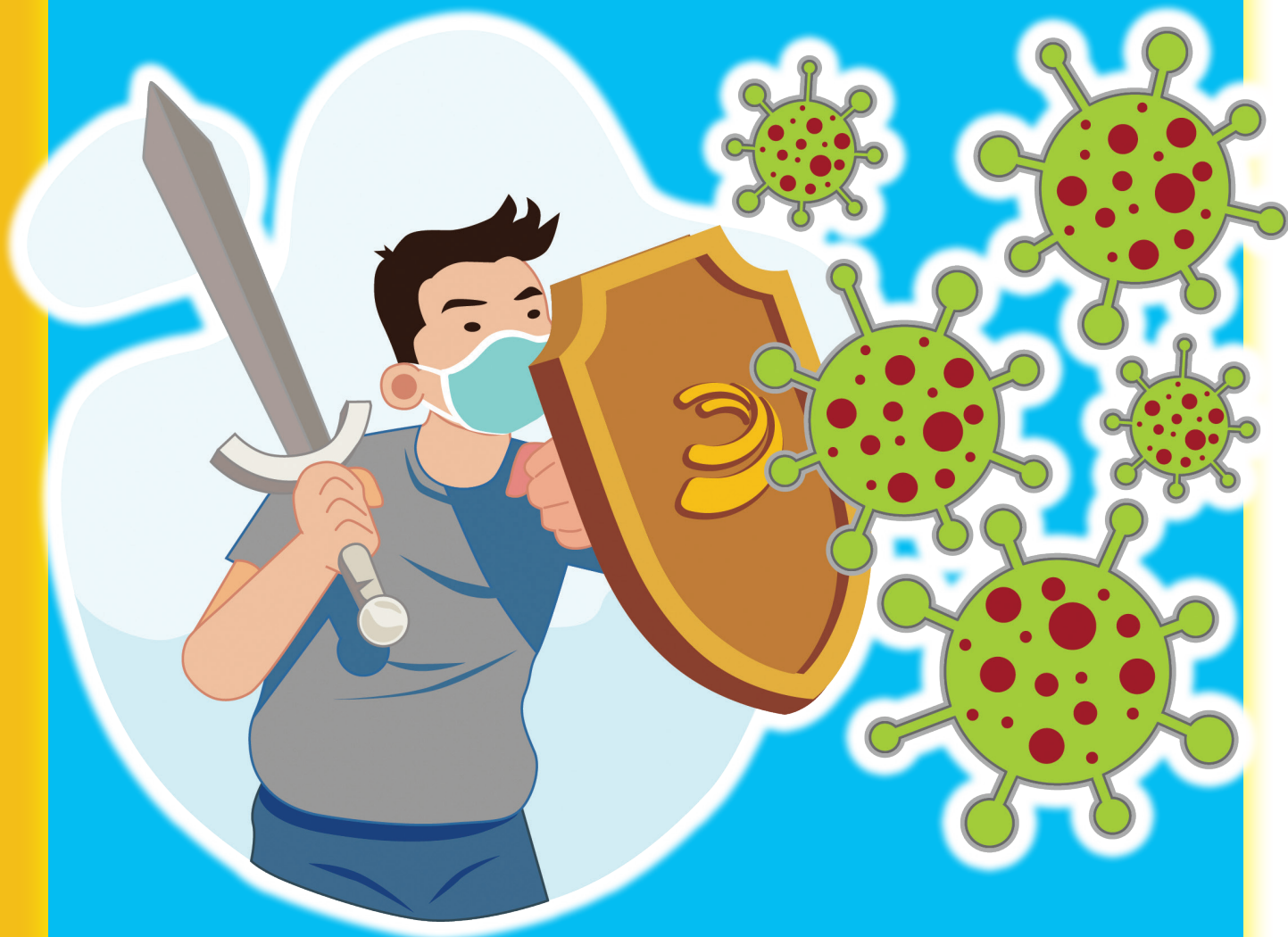
Assist research project "RemoteLab"



Assist promotion on social media and facilitate management of studios and labs

With our compliments

***Step up our efforts to guard against
COVID-19***



齊心協力 加強疫症防預

應用科學及紡織學院 致意

Teaching philosophy: *Invigorating Passion for Learning*

Dr Hua ZHANG,

Teaching Fellow, Department of Applied Mathematics

“ Learning is indeed an endless process. My passion also comes from seeing the spark in my students' eyes when they understand something new for the first time. ”

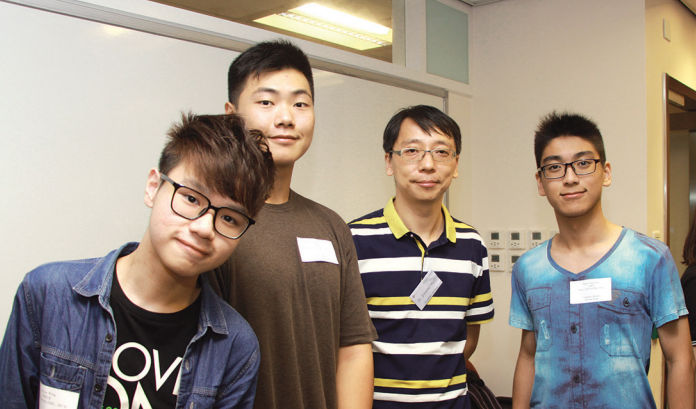


I am now in my ninth year of teaching at PolyU. Almost 20 years ago, when I was still a graduate student, I delivered my first tutorial to undergraduate students. I have certainly gained some teaching experience over the years. However, I am less sure that I have developed a concrete 'philosophy' or 'wisdom' (as 'philosophy' means 'love of wisdom' in Greek) to share with others. When asked to write about my teaching philosophy, I felt just like a student again, facing a question that looks familiar but is more difficult than expected. I decided to review my Student Feedback Questionnaire (SFQ) reports to find out what my students liked about my teaching.

The word that appeared most frequently in the comments was 'explain'. It is not surprising that this simple word means so much to my students. I teach mathematics, a field in which students easily get lost in a jungle of definitions, theorems and calculations if results are presented without explanation. Where does a certain definition come from? Why do we need a given theorem? What is the motivation behind a particular approach? How does our topic today relate to the subject overall? I always try to address these questions to make the subject logical and coherent and show the students not only what mathematical concepts are, but also where they come from and how they relate to each other. An explanation should

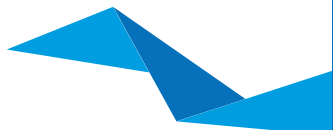
not be too long, but it should be robust – like the thread that runs through a necklace, without which the shining pearls of wisdom would be scattered and hard to grasp.

In my SFQ reports, many students also mentioned that they liked the examples I gave in class. Although mathematics is an abstract discipline, the best way to understand it is usually by studying concrete examples. I find that good examples are effective when introducing a new topic or definition, showing why a certain method works or does not work, and discussing why we need certain assumptions. I also use examples to show how and why mathematics is relevant to our lives today. For many of the subjects I teach, the main content is hundreds of years old. I recall that a colleague from the social sciences was shocked to learn that the syllabi of university calculus courses had remained largely the same for many decades. I tried to convince her that what we teach is not outdated. 'Old' mathematics can still solve many modern problems. Linear algebra is the key component of Google's PageRank algorithm, which makes the search engine effective. Mathematics has shaped our view of the world. The terms 'butterfly effect' and 'three body problem', for example, which have made their way into popular culture through films and novels, come from the study of ordinary differential



equations. My students always show more interest in mathematics after encountering these examples.

Another word that showed up often in the reports was 'passionate'. I love mathematics and am indeed passionate about sharing what I know with my students. But how do I keep this passion from fading after teaching the same topics dozens of times? I always try to find new approaches, perspectives and examples when teaching students with different backgrounds, interests and capabilities. Every time I teach a topic, I learn something new. Learning is indeed an endless process. My passion also comes from seeing the spark in my students' eyes when they understand something new for the first time. A music analyst once remarked, 'I rather envy the enjoyment of anyone who should hear the Mendelssohn concerto for the first time'. What I feel is not envy but a great sense of privilege. Inspiring my students' own passion for mathematics is the most memorable part of my teaching career.



教學理念：

燃亮學習熱誠

— 張驊博士
應用數學系專任導師

「每次教同一個課題，我都會學到新的東西，正所謂「學無止境」。我的熱誠也來自學生們第一次明白新課題時眼中瞬間閃爍的光芒。」

我在理大任教轉眼已是第九個年頭，而我第一次在大學教導修課是大約廿年前修讀博士時的事了。這些年來，我累積了一些教學經驗，但是卻不敢說自己有什麼「理念」或「智慧」能與他人分享。在希臘語中，理念 (philosophy) 一詞是「熱愛智慧」的意思。所以，當我獲邀就自己的教學理念撰文時，我好像回到學生時代，面對一道大致熟悉，但卻比預期困難得多的問題。我決定回去查看SFQ報告裡學生給我的評語，看看他們喜歡我哪些教學元素。

評語中出現次數最多的詞語是「解釋」。我明白這個簡單的詞語為什麼對學生那麼重要。我教的是數學，如果我只提供結果而不作解釋，同學很容易會迷失在定義、定理和計算的叢林中。這個定義是哪來的？為什麼我需要這個定理？這個方法背後有什麼動機？今天的課題和學科其他部份有什麼關係？我經常嘗試解答這些問題，令科目更富邏輯和更一脈相承，也向同學闡明所有內容從何而來以及如何環環緊扣。解釋不宜過長，就像珍珠項鍊中的串繩一樣纖細卻不可或缺——沒有了這條繩子，珍珠就會四處散落，難以掌握。

很多同學提到他們很喜歡我在課上提出的「例子」。數學非常抽象，而瞭解它的最佳方法，往往是研究實例。我發現在介紹新課題、提出新定義、說明為什麼某些方法可行或不可行，還有討論為什麼我們需要作出某些假設時，好的例子非常有效。此外，我也以例子展示數學和我們如何息息相關。我任教的很多學科中，不少主要內容已有幾個世紀的歷史。我還記得一位社會科學的同事得知微積分課的課程內容幾十年未變時的震驚。我嘗試說服她我們所教的並未過時，「古老」的數學仍然可以解決很多現代難題。例如線性代數是Google頁面排名演算法的關鍵，令搜尋引擎得以有效運作。數學也塑造了我們的世界觀，「蝴蝶效應」、「三體問題」這些詞語均透過電影和小說滲入流行文化，而它們都來自對常微分方程的研究。同學們知道這些例子後，對課堂更有興趣。

另一個經常出現的詞是「熱誠」。我熱愛數學，所以在與同學分享自己所學方面非常有熱誠。但是，如何在教授同一課題幾十次後仍然保持這份熱誠，不令其減退呢？我總是嘗試尋找新的方法、新的角度和新的例子來教授背景、興趣和能力都不盡相同的學生。每次教同一個課題，我都會學到新的東西，正所謂「學無止境」。我的熱誠也來自學生們第一次明白新課題時眼中瞬間閃爍的光芒。一位音樂學家曾說：「我著實羨慕人們首次聽到孟德爾遜協奏曲時所得到的享受……」我不羨慕學生，讓他們享受學習，是我的莫大榮幸。能夠啟發他們對數學的學習熱誠，是我教學生涯中最難忘的時刻。



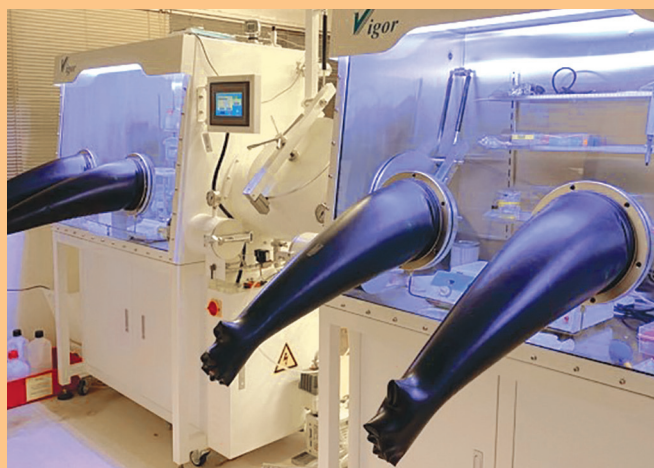
Advancing Biosensor Technology for Enhancing Public Health

Prof. Feng YAN,
Professor, Department of Applied Physics

“ Portable, lightweight, miniaturised and low-cost biosensors offer particular convenience in these applications, helping to collect plenty of information for data analysis and providing functions that cannot be achieved with conventional sensing techniques. ”

Biosensors have very broad applications and play a vital role in the diagnosis of diseases, healthcare monitoring, food/water analysis, environmental tracking, agricultural production and so forth. Portable, lightweight, miniaturised and low-cost biosensors offer particular convenience in these applications, helping to collect plenty of information for data analysis and providing functions that cannot be achieved with conventional sensing techniques. For example, it is challenging to instantly, simultaneously and non-invasively obtain comprehensive health signals from a human body at anytime and anywhere. Wearable electronic systems based on the integration of multiple biosensors can meet these requirements, facilitating the ubiquitous monitoring of multiple health signals and the wireless transmission of the resulting information for big data storage and analysis. Such information plays a critical role in diagnosis, cure and rehabilitation for many diseases. It is also useful for fitness tracking, health maintenance and even the use of prostheses.

I have considerable experience in researching and developing flexible high-performance bioelectronic devices capable of detecting various bio-signals from the human body and providing comprehensive data for health analysis through machine learning. The devices are made of organic semiconductors, which are flexible and lightweight and can be prepared at a low cost by printing or spin coating. I have developed many types of highly sensitive biosensors in the last ten years. For example, our group fabricated highly sensitive glucose sensors that can be used for non-invasive glucose detection by testing saliva or sweat. Diabetes is a



推進生物感應器科研 提升公共健康

「如果有便攜小巧而低成本的生物感應器配合，這些應用可有助收集大量數據分析所需的資料，更可以實現傳統感測技術難以發揮的功能。」

— 嚴鋒教授
應用物理學系教授

生物感應器應用範圍廣泛，在診斷病症、醫療監測、食物 / 水分析、環境追蹤、農業生產等領域均擔任重要角色。如果有便攜小巧而低成本的生物感應器配合，這些應用可有助收集大量數據分析所需的資料，更可以實現傳統感測技術難以發揮的功能。例如，要在任何時間、空間和地點都能即時以非入侵方式從人體獲取全面健康信號，是一項非常具挑戰性的任務。結合多種生物感應器的可穿戴式電子系統，便能滿足上述要求，隨時隨地監測多種健康信號，更可透過無線方式傳送資料供大數據儲存和分析。這些資料在多種疾病的診斷、治療和復康方面都有著關鍵作用，有助追蹤體能、保持健康和使用義肢。

我一直努力研究高效能彈性生物電子裝置，希望透過機器學習，從人體偵測健康分析所需的全面生物信號。我所研發的裝置以有機半導體製成，輕巧而富彈性，也可以由印刷或旋塗法製作，成本甚低。我在過去10年已研發出多種敏感度非常高的生物感應器，例如，我所領導的工作小組製作過高敏血糖感應器，可用於以口水或汗液來進行非侵入式血糖偵測。糖尿病是現今常見的都市病。糖尿病病人每天都要測試血糖進行自我監測。傳統測試需以針刺指頭取血再滴在試紙上，每次測試不但令患者受痛，也會形成傷口，如果過程處理不當更會導致感染。非侵入式生物感應器能克服傳統方法的不足，同時保持測試的準確性。其他代謝產物，例如是尿酸、抗壞血酸、多巴胺

和膽固醇，都可以經由高敏生物感應器測出。因此，把這些多功能生物感應器整合到可穿戴的系統，能提供全面的人體健康資料。

我的團隊也為多種疾病的生物標識研發了多種高敏生物感應器。例如，我們的研究報告便載有一種偵測癌症蛋白生物標識的生物感應器，預料將可應用於早期癌症偵測。最近，我們集中於RNA和IgG的快速偵測，對於2019新冠病毒一類疫症大流行的診斷和預防非常有用。

玻璃或塑膠可以成為多種生物感應器的生產載體，所以同一時間可以生產很多生物感應器。這些生物感應器還可以具備多種功能，而裝置的形狀也可以在設計上滿足實際應用，特別是可穿戴電子用品上。隨著生產流程的方便程度提升，預料未來可以實現裝置大型生產。除了裝置製作，特別設計的遙控感應器計量器和流動應用程式都可以進行快速而流暢的測試。

因此，我們研發的生物感應器，預計可於未來被廣泛應用，讓公眾健康受惠。現在，人們越來越注重保持健康。有了這些可穿戴生物感應器，他們無需要刻意接受測試，只要穿上這類生物感應器裝置，就可以在手機上自動紀錄健康狀況。



common urban disease today. Diabetic patients must self-monitor their disease by conducting daily blood glucose level tests. The traditional testing method involves pricking a finger with a needle and applying a drop of blood to the test strip. Therefore, patients using this method have to endure pain every time they take a test. As each test causes a wound, testing may lead to infection if performed improperly. Non-invasive glucose biosensors can overcome these traditional shortcomings while maintaining testing accuracy. The novel biosensors can also detect other metabolites, such as uric acid, ascorbic acid, dopamine and cholesterol, with high sensitivity. Thus, integrating these multifunctional biosensors into a wearable system can provide comprehensive information on the health of a human body.

Our group has also developed highly sensitive biosensors for detecting many other biomarkers of various diseases. For example, we reported a biosensor for detecting protein biomarkers of cancers, which is expected to find applications in the early detection of cancer. Recently, we have focused on the rapid detection of RNA and immunoglobulin G, which may be useful for the diagnosis of diseases and prevention of pandemics such as COVID-19.

Arrays of biosensors can be fabricated on glass or plastic substrate, allowing a large number of these multifunctional biosensors to be fabricated at one time. The shapes of the resulting devices can be tailored to practical applications, especially in the field of wearable electronics. Mass production is expected to be achieved in the future, with convenient processes for fabricating the devices. Beyond device fabrication, remotely controlled sensor meters and a mobile app have been designed to enable fast and smooth testing.

Therefore, the biosensors developed are expected to find broad applications in the future, which will be beneficial to public health. Today, people are paying increasing attention to maintaining their health. Using these wearable biosensors, they will not need to perform tests deliberately, as the devices will record their health status automatically through their mobile phones.

FAST has recently launched the following new academic degree programmes:

本院最近開辦了下列新學位課程：

Bachelor of Science (Honours) in Digital Fashion [Full-time Top-up]

數碼時尚（榮譽）理學士學位
[全日制銜接學位課程]

This programme aims to provide students with solid and holistic knowledge of emerging fashion technologies, digital fashion and innovative marketing/business strategies and plans. It also equips students with advanced digital skills in fashion product development, media communication and business development in the digital era.

課程讓學生全面認識嶄新科技與數碼時尚，除了學習創新市場及營商策略與規劃，也會掌握與時尚產品開發、媒體傳訊及商務拓展相關的先進數碼科技。



INSTITUTE OF TEXTILES & CLOTHING
紡織及製衣學系

<https://polyu.hk/qVLuL>

Master of Science in Data Science and Analytics

[Mixed-mode]

數據科學及分析理學碩士學位
[混合制（全日或兼讀）課程]

Data Science and Analytics uses mathematical, statistical and computing techniques to extract useful information from large-scale data and make decisions based on it. It is widely recognised that statistics, optimisation methods and computer science form the three pillars of modern data science. This programme is designed to provide a balanced treatment of these three pillars, with the aim of nurturing future data analysts.

數據科學及分析旨在以數學、統計學及計算學技術從大數據擷取有用資訊。其中，統計學、優化方法及計算機科學均被普遍視為現代數據科學中的三大支柱。課程將與學生探討如何在這三大支柱中取得平衡，培育學生成為未來的數據分析師。



DEPARTMENT OF APPLIED MATHEMATICS
應用數學系

<https://polyu.hk/SMjtf>

Master of Science in Nutrition and Healthy Ageing [Mixed-mode]

營養與健康活齡理學碩士學位
[混合制（全日或兼讀）課程]

This programme aims to provide a unique and profession-oriented education opportunity for Bachelor's degree holders with relevant backgrounds, and to produce well-trained nutritionists to serve the community, especially the elderly. It also provides students with deeper insights into ways of promoting health education in Hong Kong, and fosters their sense of responsibility for promoting human health, optimising nutritional status and preventing diseases.

課程旨在為具有相關學士學位的畢業生提供專業深造機會，同時為社會培育針對長者需要的營養學家，務求提升營養健康、加強疾病預防，並推進香港的醫療健康教育。



DEPARTMENT OF
APPLIED BIOLOGY AND
CHEMICAL TECHNOLOGY
應用生物及化學科技學系

<https://polyu.hk/OUuHH>

PolyU has also launched the multidisciplinary programme **Master of Science in Medical Physics**. AP is proud to be part of an interdisciplinary team, and offers core subjects for this new programme, which is the first higher degree programme in medical physics offered in Hong Kong. Its curriculum is designed to cover various topics, such as health technology, physics and engineering, and offers interdisciplinary training for professionals who are keen to pursue a career in the field of medical physics.

理大最近也推出了跨學科的**醫學物理理學碩士學位課程**。應用物理系很榮幸能參與課程的跨學科團隊，教授核心科目。此課程是香港首個醫學物理學高級學位課程，涵蓋醫療科技、物理學及工程學等，為有志投身醫學物理學專業人士提供跨學科培訓。



Department of Applied Physics
應用物理學系

<https://polyu.hk/Oqhyj>

Faculty Staff 學院教學 及科研人員

Research Grants Council (RGC) Early Career Award 2020/21

Dr Man-chung YUE, Assistant Professor, AMA

Highly Cited Researcher 2020 by Clarivate

Prof. Wai-yeung WONG, Raymond, Clarea Au Professor in Energy and Chair Professor, ABCT; and Interim Dean, FAST

Highly Cited Researcher 2020 by Clarivate

Prof. Liquan QI, Emeritus Professor, AMA

Elected Inaugural Fellow of China Society for Industrial and Applied Mathematics (CSIAM)

Prof. Defeng SUN, Chair Professor & Head, AMA

Global Innovation Award, TechConnect Business Virtual Summit and Showcase 2020

Prof. Pei LI, Professor, ABCT

2020 Guanghua Engineering Science and Technology Award

Prof. Xiaoming TAO, Chair Professor, ITC

Finalist of 2020 UGC Teaching Award

Dr Fridolin TING, Teaching Fellow, AMA

RGC Senior Research Fellow Award 2020/21

Prof. Wai-yeung WONG, Raymond, Clarea Au Professor in Energy and Chair Professor, ABCT; and Interim Dean, FAST

RGC Research Fellow Award 2020/21

Dr Zhonghua QIAO, Associate Professor, AMA

FAST Faculty Awards 2019/20

Individual - Teaching

Dr Fridolin TING, Teaching Fellow, AMA

Individual - Research and Scholarly Activities

Dr Li LI, Associate Professor, ITC

Team - Research and Scholarly Activities

Prof. Chi-wai KAN, Professor, ITC (Team Leader)

Dr Chris LO, Associate Professor, ITC

Dr Joanne YIP, Associate Professor, ITC; Associate Dean (Industrial Partnership), FAST

Dr Ka-fu YUNG, Joseph, Associate Professor and Associate Head, ABCT

Dr Amber CHIOU, Assistant Professor, ABCT

Prof. Hai GUO, Professor, CEE

Dr Simon Ching LAM, Assistant Professor, SN

Team - Services

Dr Desmond CHAU, Instructor, ITC (Team Leader)

Ms Cherry CHAN, Executive Officer, ITC

Mr Eric WONG, Technical Officer, ITC

2020 Fellow of the Society for Industrial and Applied Mathematics (SIAM)

Prof. Defeng SUN, Chair Professor & Head, AMA

Caring Ambassador, recognised by The Hong Kong Council of Social Service (Mar 2020 to Feb 2021)

Dr Jeanne TAN, Associate Professor, ITC

Faculty Students & Alumni 學院學生 與畢業生

27th Symposium on Chemistry Postgraduate Research in Hong Kong

- Best Oral Presentation Award in Biochemistry and Chemical Biology

Jiqing YE, RPg Student, ABCT

- Best Poster Award in Biochemistry and Chemical Biology

Yangyi QIU, RPg Student, ABCT

FAST Outstanding PhD Thesis Awards 2019/20

Ho Yin WONG, PhD Student, ABCT

Kai WANG, PhD Student, AMA

Shuoguo YUAN, PhD Student, AP

Kai Kai MA, PhD Student, ITC

Hong Kong Jockey Club Scholarship

Yu LIU, Undergraduate Student, AP

Tianjiang Cup Li Shizhen Youth Outstanding Thesis Award in the 16th International Postgraduates Symposium on Chinese Medicine

Ka Ying WONG, PhD Student, ABCT

Best Presentation Award in The Liver Week 2020

Ho Kit MOK, PhD Student, ABCT

Alua KHASSENNOVA

– BSc(Hons) in Applied Biology with Biotechnology

Studying at PolyU, a place of excellence, discovery and dedication to the community, has been a transformational experience for me. The BSc(Hons) in Applied Biology with Biotechnology programme has provided me with high-quality education, valuable knowledge, practical skills and prospects for career development. With PolyU's help, I am now closer to achieving my goal of becoming a qualified professional in biology with the versatile experience needed to improve the lives of people around the world. Supported by the PolyU Entry Scholarship, I have experienced university life without assuming a financial burden. Here at PolyU, I have been able to develop my leadership and communication skills as a member of various student clubs, meet and learn from people from diverse backgrounds, increase my global outlook and professional knowledge via exchange programmes (studying at Nanyang Technological University and the University of Cambridge), share my views, ideas and culture, and participate in various educational and social projects. Ultimately, these experiences have allowed me to truly unleash my potential.

理大是一個成就學術卓越、引領知識探求和致力貢獻社會的地方。在這裡學習使我經歷重大蛻變。我在應用生物與生物科技課程中得到了優質教育、寶貴知識和實用技能，還有很多發展機會，讓我為投身生物專業作好準備，為改善人們生活而努力。同時，理大的入學獎學金大大減輕我的學習經濟負擔。另外，透過各式各樣的學會組織，我有機會與不同背景的人士交流，提升領導才能、改善溝通技巧、擴闊眼界和增進專業知識。除此之外，我也參加了多項交換生計劃，除了到南洋理工大學、劍橋大學等海外大學學習，也參與過有關教育和社會的項目，增廣見聞之餘也有機會認識各國文化，充份發展潛能。



Charlotte NG, 吳凱敏

– BSc(Hons) in Investment Science (Graduated in 2019)

Studying in the Department of Applied Mathematics (AMA) as an undergraduate was an invaluable experience for me. As a student without a solid mathematics background, I found it very challenging to study advanced mathematics topics. I am thankful to many supportive and encouraging teachers at AMA. They are always enthusiastic to help me overcome my learning hurdles. Indeed, I was greatly inspired and have developed a strong interest in mathematics and statistics. Therefore, I decided to pursue a research postgraduate degree at AMA. Compared with the undergraduate programme, postgraduate studies require deeper understanding on a subject, greater independence and more specialised skills. I have received not only patient guidance from my supervisor, but also valuable advice from other professors on my research projects. I am grateful to AMA for giving me such a wonderful opportunity to develop and demonstrate my research ability.

應用數學系的學士課程和研究學位均令我獲益匪淺。修讀學士課程前，我只有基礎的數學認知。良好學習環境，加上老師熱心幫助，我對數學和統計學產生了濃厚興趣，更在修畢學士後決定繼續攻讀哲學碩士學位。相比起學士課程，攻讀研究生課程需要對課題有更深入的了解、具備更獨立自主的學習態度以及更專門的相關知識。我不單獲得指導導師的耐心指導，學系的其他教授亦就我的研究項目給予寶貴的建議。很感謝學系及各位老師的支持，讓我在感興趣的領域進行學術研究。





Mohammad Ismail HOSSAIN

– PhD in Applied Physics (Graduated in Sep 2020)

Like many others, I had always dreamed of completing a PhD. I am immensely grateful to the University Grants Committee of Hong Kong for giving me the opportunity to pursue my PhD study at PolyU through the prestigious Hong Kong PhD Fellowship Scheme. The world-class education and research facilities provided by PolyU enabled me to collaborate with renowned scientists worldwide, including professors at Stanford University, USA, to achieve my research goals. I was lucky enough to receive support from PolyU to visit several countries, such as the USA, Canada, Australia, Japan, and Malaysia, to present my work at scientific conferences, where I met scholars from different cultures. I am proud to have published more than 20 high-quality journal articles and presented more than 25 conference papers during my 3 years at PolyU. I am also grateful to PolyU for giving me the chance to participate in a 3-month research project in the USA, which was organised by the Electrical and Computer Engineering Department of the University of Connecticut.

獲取博士學位是很多人的夢想，也是我的夢想，所以我特別感激大學教育資助委員會，它所設立的香港博士研究生獎學金計劃，資助我在享有盛譽的香港理工大學夢想成真。理大擁有世界級的教研設施，不但讓我和來自美國史丹福大學等全球知名的科學家合作、實現自己的研究目標，也支持我前往美國、加拿大、澳洲、日本、馬來西亞等地出席科學會議和發表研究成果，更有機會與不同文化背景的學者交流，實在與有榮焉。三年博士研究生涯中，我先後在20多份卓越的期刊和25場會議上發表文章，令我覺得非常幸運。此外，我也很感謝理大為我穿針引線，讓我參與了一項為期三個月，由美國康乃狄克大學電機工程學系主持的研究項目。



Ying ZHONG, 鍾穎

– MA in Fashion and Textile Design

Hong Kong is a melting pot for diverse cultures, which have absolute freedom to collide and integrate with each other. In this multicultural city, I have already had many opportunities to improve my skills and knowledge in various areas and find a suitable direction for my development. PolyU has given me the perfect platform for learning and communicating with teachers with outstanding professional knowledge and rich experience. I have learned a lot from every class and conversation with them. I am grateful to have worked with such remarkable teachers, who are also mentors and friends. Although I encountered various challenges during the school year, when I saw my design works neatly placed in front of me, I felt that all of my efforts had been worthwhile. It is a great honour for me to continue my studies at PolyU. I wish the University success in all of its endeavours.

香港是一個非常自由的城市，是多元文化激烈碰撞卻又能相互融合的地方。身處這裡，我有更多機會從不同角度提升能力，也可找到適合的發展方向。理大所提供的優秀平台，讓我受學於擁有專業知識和豐富經驗的傑出老師，讓我在每次指導和交談時都得到全面的知識交流，收獲豐富。雖然這學年遇上了各種狀況，但是看到自己的作品整齊地排列展示，便覺得之前所有付出都是值得的。我很榮幸能夠來到理大繼續學業，感恩可與各位良師益友相遇，也祝福理大各方面都越趨卓越。

FAST proudly presents:

PolyU Intimate Fashion Show 2020

Held at Hotel ICON on 9 July 2020, the annual show showcased the fascinating works of graduating ITC students of Intimate Apparel and Activewear specialism.

2020理大內衣時裝展

本年度的理大內衣時裝展於7月9日假唯港薈隆重舉行。一如以往，這個年度盛事為大家展示應屆紡織及服裝學系內衣及運動服裝專業畢業生的精彩絕倫作品。



REFORMING
FASHION

ONLINE STUDENT SHOW

Online Student Fashion Show 2020 – REFORMING FASHION

It was the first online student fashion show of ITC curating the amazing works of graduating students via different online platforms in the summer of 2020.

理大網上學生時裝展2020 – REFORMING FASHION

紡織及服裝學系於本年夏天舉辦的首個介紹畢業生作品的網上時裝展。



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