

PolyU SCIENCE

Newsletter

Jun 2026 #08

PolyU **S**cience **C**reates **I**mpact



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學



FACULTY OF 理學院
SCIENCE

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Welcome to the 8th issue of the FS Newsletter! It is a moment of immense pride as we celebrate the remarkable milestones and prestigious accolades recently achieved by our colleagues. These accomplishments reflect the strength, dedication, and vibrancy of our Faculty community.

Research excellence remains at our cornerstone. I would like to extend my warmest congratulations to Prof. Chai Yang on being awarded the prestigious Croucher Senior Research Fellowship 2026. This honour is a testament to his outstanding contributions to research and his continued potential for ground-breaking discoveries.

We are also delighted to celebrate significant advancements in academic and university leadership. I am pleased to share that Prof. Zheng Zijian has been

appointed Vice President (Knowledge Transfer) of PolyU. This milestone highlights his leadership in bridging academic research with real-world applications, and we look forward to his continued impact in driving meaningful societal contributions at the university level. In addition, my heartfelt congratulations go to Prof. Zhao Yanxiang on her promotion to Chair Professor of Biochemistry and Biotechnology—a well-deserved recognition of her scholarly excellence and dedication to the field.

Our commitment to holistic excellence is further demonstrated by the President's Awards for Outstanding Achievement 2025, in which our Faculty members received two individual awards in knowledge transfer and a team award in teaching. We commend Prof. Zheng Zijian and Prof. Wong Ka-hing for their significant contributions to knowledge transfer, as well as Prof. Lee Kin-wah and his team for their exemplary efforts in fostering an innovative mindset among our students. Their unwavering dedication continues to enrich both our Faculty and the wider community.

These achievements are the result of the collective hard work, passion, and talent of our staff and teams. As we look ahead, I am confident that the Faculty will continue to scale new heights in innovation and academic excellence.

Thank you for reading, and I wish you all a wonderful and relaxing summer holiday!

Prof. Wong Wai-yeung, Raymond

Dean, Faculty of Science

Clarea Au Professor in Energy

Chair Professor of Chemical Technology

歡迎閱讀理學院第八期學院通訊！我懷着無比欣喜的心情與自豪，與大家分享同事們近期取得的一系列卓越成就與榮譽。這些成果不僅展現出理學院在學術方面的實力，更體現了團隊的凝聚力與持續進步的動力。

追求卓越科研成果一直是我們的核心使命。在此，我謹向柴揚教授榮獲裘槎優秀科研者獎致以最誠摯的祝賀。此項殊榮對他在科研領域的傑出貢獻，以及不斷進行革命性科學研究的探索精神作出了肯定。

我們亦欣喜見證同事在學術及領導方面邁向了重要的里程碑。恭喜鄭子劍教授獲委任為理大副校長（知識轉移），這彰顯了他在推動學術研究及實際應用方面的卓越領導能力。我們期待他在新職位上繼續提升大學影響力，為社會創造價值。此外，我們衷心祝賀趙燕湘教授晉升為生物化學與生物科技講座教授，這是對她在學術領域卓越成就及多年努力的充份肯定。

在2025年度校長特設傑出成就獎中，理學院成員表現出色，榮獲兩項知識轉移個人獎及一項教學團隊獎。我們謹此向鄭子

劍教授及黃家興教授在推動知識轉移方面的卓越貢獻，以及李建華教授及其團隊在培育學生創新思維方面的傑出表現致以最高讚揚。他們的努力不僅提升了學院的整體實力，更為社會帶來深遠的影響。

這些成果歸功於全體教職員的共同努力與專業精神。展望未來，我深信理學院將會繼續發揮優勢，在創新與學術方面再創高峰。

感謝各位閱讀本期通訊，祝大家暑假愉快！

理學院院長

歐雪明能源教授及化學科技講座教授

黃維揚教授

Brain-Inspired Electronics: Memristor-Based Neuromorphic Hardware for Energy-Efficient AI

受人腦所啟發：以憶阻器類神經形態硬件帶動高效能人工智能



Prof. Han Suting
韓素婷教授專訪

Associate Professor,
Department of Applied Biology and Chemical Technology
應用生物及化學科技學系副教授

類神經形態運算的興起，為人工智能中的傳統馮·諾依曼架構帶來了突破。傳統計算系統將「記憶」與「運算」分離，產生了大量數據搬移與能耗問題；相比之下，人類大腦能高效地同時運行兩者，展現出極高能效與適應能力。對此，**韓素婷教授**專注研究有關憶阻器的類神經形態硬件，以令人工智能系統能更貼近人類的運作模式。

憶阻器是一種具備記憶功能的雙端元件，能同時進行資訊儲存與處理，非常適合應用於存算一體架構。它可根據電訊號不斷調節電導，模擬生物之間的溝通方式。將運算直接嵌入記憶體中，系統可大幅減少數據在記憶體與處理單元之間的傳輸功耗，大幅提升運算速度。

透過交叉陣列架構，憶阻器系統能以高度並行方式執行神經網絡的核心運算——向量-矩陣乘法。相比傳統序列化運算方式，其速度更快、功耗更低，能在硬件層面模擬生物溝通。

韓教授的研究亦引入了啟發自生物的學習機制，包括脈衝時序依賴可塑性技術，使憶阻器陣列能根據輸入脈衝的時間關係自動調整權重，進一步讓其脈衝神經網絡行為更接近自然神經系統的運作模式。團隊亦重點探索混合鈣鈦礦與有機材料，利用離子遷移機制精確調控電導率。透過改進晶體結構及引入界面鈍化層，進一步提升憶阻器的性能、穩定性及可規模性。

這些技術在實際應用中潛力巨大。團隊已開發出柔性可穿戴憶阻器系統，用於傳感器內運算，以將感測、記憶與運算整合於一體，並對四周環境作出反應，適用於醫療與機械人等低功耗領域。

展望未來，韓教授的研究將延伸至人機介面，包括針對視覺障礙的輔助技術，以發展出體積更小、性能與人腦更相近的智能系統，令其成為未來矽基系統與生物智能的核心科技。

The emergence of brain-inspired (neuromorphic) computing offers a promising route to overcome the limitations of conventional von Neumann architectures in artificial intelligence (AI). While traditional systems separate memory and computation—resulting in high energy consumption—the human brain integrates these functions efficiently within a compact structure. Addressing this gap, **Prof. Han Suting**'s research focuses on memristor-based neuromorphic hardware, enabling AI systems that more closely emulate biological intelligence.

Memristors are two-terminal devices capable of both storing and processing information, making them ideal for in-memory computing. By continuously adjusting their conductance in response to electrical signals, they mimic the adaptive behaviour of biological synapses. This allows computation to occur directly within memory, eliminating costly data transfer and significantly improving speed and energy efficiency.

Through crossbar array architectures, memristor systems perform vector-matrix multiplication—a core neural network operation—in a highly parallel manner. This contrasts with the sequential processing of conventional systems, enabling faster and lower-power computation while supporting synapse-like functionality in hardware.

Prof. Han's work also incorporates biologically inspired learning mechanisms, particularly spike-timing-dependent plasticity (STDP), enabling adaptive weight updates in memristor arrays. This supports the development of spiking neural networks (SNNs), which more closely resemble natural neural systems. At the materials level, her research explores hybrid perovskite and organic materials, where ion migration enables precise conductance modulation. By optimizing crystallinity and introducing passivation layers, her team improves device performance, stability and scalability.

Beyond theory, these technologies show strong potential in real-world applications. Flexible, wearable memristor-based systems have been developed for in-sensor computing, integrating sensing, memory, and processing into a single platform. Such systems enable intelligent responses to environmental stimuli, supporting low-power, real-time AI in areas such as healthcare and robotics.

Looking ahead, her work extends to human-machine interfaces, including assistive technologies for visual impairments, reflecting a broader vision of compact, brain-like, energy-efficient systems.

Together, these efforts position Prof. Han's research at the forefront of memristor-based neuromorphic hardware, bridging the gap between silicon systems and biological intelligence.

Ammonia as a Hydrogen Carrier: Advancing Zero-Emission Energy Solutions

以氨作為氫能載體： 開啟零排放能源新機 遇



Interview with
Prof. Molly Li Mengjung

李孟蓉教授專訪

Assistant Professor,
Department of Applied Physics
應用物理學系助理教授

在全球邁向低
碳環境下，氫能
被視為重要的清潔能源
載體，但其儲存與運輸一直
面對不少挑戰。李孟蓉教授的研究
以「氨」作為替代性氫能載體，以探索
如何高效地釋放氫氣，並實際應用於能源系統
之中。

與氫氣需要高壓或低溫儲存不同，氨可在較溫和條件下液化，
並可利用現有基礎設施進行運輸。雖然氨具毒性，需要謹慎處理，但
整體仍是一種可行的氫能載體。當中的核心技術為將氨分解為氫氣和氮氣
的「氨裂解」過程。

氨本身並不容易釋放氫氣，傳統裂解技術需要約500°C的高溫，且能耗較高。為此，李教授
的團隊研發出納米結構的鈷基催化劑，其「核殼結構」設計以金屬氧化物包覆鈷納米粒子，防止
粒子在高溫下聚集，同時提供具動態特性的表面，提升氨的吸附能力，令氫氣與氮氣更容易被釋放。這
類催化劑具備納米動態特性，其表面能隨反應條件調整，有助提升氨的吸附與釋放效率，能在較低溫度下更
高效地產生氫氣。

此外，李教授亦強調系統整合的重要性。其中一大關鍵，是解決高溫裂解與低溫燃料電池（約80–150°C）之間的溫差問題，
以減少能耗。氫氣純度亦是重要因素。氨裂解後會產生氫氣與氮氣的混合物，而不同應用對純度要求各異。例如燃料電池需
要高純度氫氣，需進一步淨化；燃燒用途則可容許較低純度。因此，系統設計必須因應不同應用場景作出調整。

對此，李教授團隊已開發出以氨為動力的高爾夫球車、小型巴士及充電站原型，充份展示當中的應用潛力。未來要推動技術
廣泛應用，仍需在綠色氨生產、催化技術及系統工程等方面持續突破。隨著技術逐步成熟，氨有望成為一種具成本效益、可
大規模應用，甚至接近零碳排放的氫能載體，為全球能源轉型注入新動力。

As decarbonisation accelerates, hydrogen is a key clean energy carrier, but its storage and transport remain challenging. Prof. Molly Li Mengjung's research explores ammonia as an alternative hydrogen carrier, focusing on efficient hydrogen release and practical integration into real-world energy systems.

Unlike hydrogen, which requires high-pressure or cryogenic storage, ammonia can be liquefied under mild conditions and transported using existing infrastructure. Although toxic and requiring careful handling, ammonia provides a more practical and scalable hydrogen carrier. The main challenge is ammonia cracking—the decomposition of ammonia into hydrogen and nitrogen.

Ammonia does not readily release hydrogen, and conventional cracking requires temperatures around 500°C, making the process energy-intensive. To address this, Prof. Li's team has developed nanostructured cobalt-based catalysts with a core-shell design, where cobalt nanoparticles are coated with a metal-oxide layer. This structure enhances performance by preventing particle aggregation at high temperatures and by providing a dynamic surface that improves ammonia adsorption and facilitates efficient hydrogen and nitrogen release. These catalysts also exhibit dynamic nanoscale behaviour, allowing their surfaces to adapt to reaction conditions. This improves ammonia adsorption and product desorption, enabling more efficient hydrogen production at lower temperatures.

Beyond catalyst design, Prof. Li emphasizes system integration. A key challenge is bridging the temperature gap between high-temperature ammonia cracking and fuel cells, which operate at 80–150°C, to minimise energy losses and ensure efficient operation. Hydrogen purity is another critical factor. Ammonia cracking produces a mixture of hydrogen and nitrogen, and applications vary in their requirements. Fuel cells need high-purity hydrogen, necessitating additional purification, while combustion-based uses can tolerate lower purity. System design must therefore be tailored to specific applications.

The technology has already advanced beyond the laboratory. Prof. Li's prototypes include ammonia-powered golf carts, minibuses and charging stations, demonstrating the potential for decentralised energy supply and transportation. Mainstream adoption depends on scalable, cost-effective green ammonia production, advances in catalysts and reactor design to improve cracking efficiency, and optimised system-level engineering for reliable, high-performance operation. Together, these advances demonstrate how ammonia can become a practical, potentially zero-carbon hydrogen carrier.

Balancing Safety and Health: Microbial Dynamics in Food Systems

平衡安全與健康： 微生物於食品系統 中的角色



Interview with
Prof. Xia Xiaodong
夏效東教授專訪

Associate Professor,

Department of Food Science and Nutrition

食品科學及營養學系副教授

微生物雖然不能被肉眼所見，卻在全球食品系統中扮演著舉足輕重的角色。夏效東教授致力研究微生物如何提升食品品質，同時又可能對人體健康構成風險。他結合了食品安全腸道微生物組科學，以在控制有害病原體與善用有益微生物之間取得平衡。

從農田到餐桌，微生物無處不在。有益微生物有助改善土壤健康、促進農作物生長，亦在乳酪、芝士及麵包等食品的發酵過程中發揮作用；相反，有害微生物，包括沙門氏菌及大腸桿菌等，則可能引致食物變質及疾病，對公共衛生及經濟帶來挑戰。

夏教授研究的一個重點，是了解病原體如何在複雜環境中存活。其團隊深入研究生物膜形成、群體感應及雙組分調控系統等機制，了解細菌如何適應環境並產生抗逆能力。當中，群體感應讓細菌透過訊號分子進行「溝通」，協調集體行為；雙組分系統則可將外界變化轉化為基因調控反應。這些機制共同構建出一個精密的訊號網絡，大大提升細菌的生存與持續能力。對此，其團隊研發出創新的檢測管控技術，包括以經基自由基為基礎的食品去污法，能夠快速環保地消除食品中的病原體。

夏教授亦積極探索微生物對人體健康的正面作用。他發現黏蛋白阿克曼菌在緩解高尿酸血症方面具有潛力，突顯腸道微生物群的治療價值，並為新一代益生菌的發展開拓新方向。

然而，抑制有害微生物同時保留有益菌，仍是一大挑戰。由於微生物種類繁多且鑑定過程複雜，部分需要具針對性的應對策略，將之轉化為實際應用仍需進一步突破。

儘管如此，夏教授的研究在提升食品安全水平，及推動精準營養及微生物組醫療的發展已展現出巨大潛力，為建立更安全健康及可持續的食品系統注入了新動力。

Microorganisms, though invisible to the naked eye, play a fundamental role in the global food system. Prof. Xia Xiaodong's research focuses on these "invisible players" and their dual roles in enhancing food quality and posing risks to human health. His work integrates food safety with gut microbiome science, aiming to balance the control of harmful pathogens with the utilization of beneficial microbes.

Microbes are present throughout the food chain. Beneficial microorganisms support soil health, plant growth and fermentation processes that produce foods such as yogurt, cheese, and bread. In contrast, harmful microbes—including pathogens such as *Salmonella* and *Escherichia coli*—could cause food spoilage and illness, creating significant public health and economic challenges.

A central focus of Prof. Xia's research is understanding how pathogens survive in complex environments. His laboratory investigates mechanisms such as biofilm formation, quorum sensing, and two-component regulatory systems, which enable microbial adaptation and resistance. Quorum sensing allows bacteria to coordinate collective behaviours through signalling molecules, while two-component systems translate environmental cues into gene regulation via sensor kinases and response regulators. Together, these processes form an integrated multi-component signalling framework that enhances bacterial survival and persistence. Building on this understanding, his team develops innovative strategies to detect and control harmful microbes. Notably, they have developed a hydroxyl radical water-based decontamination method for pathogens in foods, enabling rapid and eco-friendly food sanitation.

In parallel, Prof. Xia explores the beneficial roles of microbes in human health. His research on *Akkermansia muciniphila* demonstrates its potential in alleviating hyperuricemia, highlighting the therapeutic value of gut microbiota and supporting the development of next-generation probiotics.

A key challenge in this field is balancing pathogen control with the preservation of beneficial microbes. Translating microbiome research into practical applications remains difficult due to the complexity of microbial identification and the need for both broad-spectrum and targeted interventions.

Despite these challenges, his work demonstrates strong real-world potential in improving food safety, advancing precision nutrition, and enabling microbiome-based therapies, contributing to safer, healthier and more sustainable food systems.

FITE Seminar Series

科教創新基金講座系列

Supported by the UGC's Fund for Innovative Technology-in-Education, the Faculty of Science continued to host seven successful seminars with more than 300 participants from February to April 2026 to bridge the gap between academia and industry. Distinguished professionals from organizations, like Cathay Pacific, CMA Testing, and DFI Retail Group etc., shared invaluable expertise on ESG, product technology, and the Testing, Inspection, and Certification (TIC) sector. These sessions provided students with authentic learning experiences, offering deep dives into trade customs and career pathways. By fostering such collaborations, the Faculty remains committed to enhancing students' career competence and preparing them for the evolving global market.

在大學教育資助委員會「創新教學科技基金」的支持下，理學院繼續成功在二月至四月舉辦了七場專題講座，共吸引逾三百名參加者，成功促進學術界與產業之間的交流。來自國泰航空、香港中華廠商聯合會及DFI零售集團等檢定中心等機構的資深專業人士，分享了關於環境、社會和管治（ESG）、產品技術以及檢測及認證（TIC）行業的寶貴經驗。這些講座為學生提供了從行業實況中學習的機會，讓他們深入了解行業慣例與職業發展路徑。透過促進產學合作，理學院致力提升學生的職場競爭力，為應對不斷變化的全球市場做好準備。



Shaping Future Careers in Retail: From Product Innovation to Sustainable Supply Chains
4 February 2026



Bridging Science and Industry: Insights from an Expert in Analytical Science and Quality Assurance
11 February 2026



The Hong Kong Qualification Framework for Testing, Inspection and Certification (TIC), and the Education and Career Pathways of the TIC Profession
4 March 2026



Indoor Air Quality Certification Scheme
11 March 2026



Effective Communication to Enhance Career Competence
12 March 2026



Energy and Greenhouse Gas Audit
25 March 2026



Building Your Career in Testing & Certification: Advice for Science Students
16 April 2026

FS Scheme on Advance HE Fellowship

理學院支援計劃 - 英國高等教育促進會會士認證

An introductory seminar on Advance HE Fellowship was successfully held on 26 March. The seminar introduced the Advance HE Fellowship framework and shared practical experience on application processes and successful cases. Colleagues from the Educational Development Centre and our departments shared their personal journeys and insights as Fellows and Senior Fellows. The seminar also outlined the Faculty's support scheme for prospective applicants and was well attended by our faculty members. Six attendees plan to apply for the Fellowship this year.

List of New Advance HE Fellows:



Dr Fortune Chan
ABCT
Associate Fellow



Dr Sandy Geng Ping
FSN
Fellow



Dr Christine Li Shi-ying
FSN
Senior Fellow



理學院於3月26日舉辦「英國高等教育促進會會士認證 (Advance HE Fellowship)」簡介會，介紹該認證的框架，並邀請教育發展中心及相關學系的同事分享申請經驗與成功心得，同時講解理學院為申請者提供的支援措施。是次簡介會吸引了不同部門的同事踴躍參與，其中有六位教職員將於今年提交申請。

New Promotional Video on Bachelor's Degree Scheme in Science (BDSS)

理學組合學士課程(BDSS)全新宣傳影片



Bachelor's Degree Scheme in Science
JS3008

The Faculty of Science has recently launched a new promotional video for the Bachelor's Degree Scheme in Science (BDSS), featuring authentic sharing from both local and overseas students. Their personal stories inspire prospective students to embark on their scientific journey with confidence.

The BDSS programme offers a flexible learning pathway. In their first year, students can explore a wide range of scientific disciplines—including biology, chemistry, physics, and food science and nutrition—before selecting a major in their second year based on their interests and aspirations. The programme integrates holistic education with interdisciplinary training, aiming to nurture future science leaders with innovative thinking and a global perspective.

理學院近日推出了全新理學組合學士課程 (BDSS) 宣傳影片，邀請來自本地及海外的學生親身分享學習經歷，透過真實故事引發共鳴，鼓勵更多學生開展科學探索之旅。

BDSS課程致力提供靈活的學習路徑，學生可於一年級接觸到有關生物、化學、物理及食品營養等不同科學領域的資訊，再根據個人興趣與志向，於二年級選擇主修方向。課程亦結合了全方位教育與跨學科訓練，致力為未來培育出具備創新思維與國際視野的科研人才。



Watch the Video
觀看影片



Jared Chung
JUPAS admittee



Kelvin Fung
JUPAS admittee



Mereli Karash
International admittee
From Kazakhstan

Counsellor Fly-in Programme

升學輔導主任訪港交流團

The Faculty, School and College Showcase: Panel Discussion & Mini Fair, organised by the Global Engagement Office of PolyU, was successfully held on 6 March. The event welcomed over 22 counsellors from 14 countries and regions.

During the panel discussion, Prof. Joseph Yung, Associate Dean (Global Engagement) of the Faculty of Science, addressed key questions regarding admission requirements, professional recognition, and career prospects for core academic programmes, including AI, Biotechnology, Chemical Technology, and Food Science and Nutrition. At the mini fair, academic staff further engaged with counsellors, sharing insights about the distinctive curriculum design and academic strengths of the Faculty.



升學輔導主任訪港交流團小型交流會暨專題討論已於3月6日順利舉行。理大環球事務處統籌並接待了22位來自14個不同國家及地區、以及本地的國際中學代表。

在專題討論會上，理學院副院長容家富教授就人工智能、生物科技、化學科技及食品科學與營養學等核心課程，解答了關於入學要求、專業認可及就業前景的提問。學院導師亦於小型交流會期間向交流團講解了理學院課程的獨特性和學術優勢。



Taught Postgraduate (TPg) Programmes Livestreaming

「港碩之路」線上直播活動

The Faculty of Science participated in the “Discover PolyU’s TPg Study Opportunities and Insights” livestream event on 13 December 2025. Co-hosted by PolyU and Sing Tao Group, the event attracted an audience of over 80,000 viewers.

During the session, Faculty representatives introduced the unique features of the TPg programmes, as well as the Faculty’s academic strengths and research infrastructure. They also addressed enquiries regarding admissions and career opportunities.

The programmes emphasise the integration of “Research + Industry”, focusing on strategic areas such as carbon neutrality, biopharmaceuticals, microelectronics, advanced materials and food safety. By aligning curriculum design with industry needs, the Faculty equips students with enhanced competitiveness, entrepreneurial capabilities, and a global outlook—making it a premier choice for professional and innovative growth.

理學院於2025年12月13日參與了由理大主辦、星島集團協辦的「港碩之路—理大學院負責人解鎖選科心法」直播活動，吸引了逾8萬人次收看。

學院代表於活動中就有關授課式研究生課程的教學特色、師資優勢及科研設施進行了介紹，並就入學要求與職業前景解答觀眾提問。

學院課程以「科研+產業」為核心，聚焦碳中和、生物製藥、微電子、先進材料及食品安全等重要領域。課程設計亦緊貼行業需求，致力提升學生的競爭力、創業能力及國際視野，是邁向專業職涯與創新發展的理想選擇。



The Faculty hosted an Online Info Session for International Students on 26 March, welcoming a new cohort of offer holders to the PolyU community. In collaboration with the Global Engagement Office, the session provided comprehensive briefings on student life and administrative support.

Academic staff from the three constituent departments offered in-depth insights into curricula and research opportunities. This was followed by networking sessions led by current international student ambassadors. The event provided participants with valuable sharing about PolyU’s inclusive environment, diverse community, and extensive academic opportunities.

FS Online Info Session for International Students

理學院國際學生網上資訊講座

理學院於3月26日舉辦了國際學生網上資訊講座，歡迎新一屆國際錄取生加入理大。是次活動與環球事務處合作，為學生提供有關校園生活及行政支援的簡介。來自理學院轄下三個學系的教職員詳細介紹了相關課程內容及科研機會，其後由國際學生代表分享親身經驗並與主持互動交流。參加者從中了解到理大共融的學習環境、多元的社群背景，以及豐富精彩的學習與發展機會。



PolyU-Adelaide University Bilateral Workshop

香港理工大學 - 阿德萊德大學先進催化、能量轉換與儲能雙邊工作坊



On 1–2 April, Faculty of Science of PolyU and Adelaide University co-hosted the “PolyU-Adelaide University Bilateral Workshop on Advanced Catalysis, Energy Conversion and Storage”. The workshop brought together 24 experts from leading universities and research institutions which include Adelaide University, University of Strasbourg, The University of Sydney, Institute of Chemistry of the Chinese Academy of Sciences (ICCAS), Dalian Institute of Chemical Physics, Soochow University, CUHK, CityU and PolyU.

With nearly 120 participants in attendance, the workshop addressed critical challenges and emerging opportunities in materials sustainability, cost reduction and system life-cycle optimization. It also fostered exchange among academia, industry, and the research community, contributing to the advancement of sustainable technologies.

香港理工大學理學院與澳洲阿德萊德大學成功於4月1日至2日合辦「先進催化、能量轉換與儲能雙邊工作坊」。24位來自阿德萊德大學、斯特拉斯堡大學、悉尼大學、中科院化學研究所、中科院大連化學物理研究所、蘇州大學、香港中文大學、香港城市大學及香港理工大學的專家學者應邀出席。

本次工作坊吸引近120人參加，與會者深入探討材料可持續性、成本控制及系統全生命週期優化等關鍵挑戰與新機遇，促進產學研交流合作，激發創新思維，並為可持續技術的未來發展注入新動力。



PolyU Science Research Seminar Series

理學院科研講座系列

PolyU Science Research Seminar Series continued to serve as a regular platform for faculty members, especially early-career researchers, and research students to exchange ideas and share knowledge. Featuring thematic presentations and interactive discussions, the series encouraged interdisciplinary dialogue and strengthened research connections within the Faculty. The seminars also provided valuable scholarly insights and contributed to the Faculty's dynamic research environment. Held on 13 February and 17 April, the seminars explored the themes of “Chemical Biology in Food and Drugs” and “Green Technology”, respectively. Apart from FS researchers, Prof. Shao-Yuan Leu from Department of Civil and Environmental Engineering was also invited to showcase the collaboration opportunities within PolyU community.

科研講座系列是理學院的常設學術活動，為本院研究人員、教職員及研究生提供持續的學術交流與知識分享平台。活動透過專題報告及互動討論，促進跨學科交流，加強院內科研聯繫，並拓闊師生及青年研究人員的學術視野，進一步營造理學院活躍多元的科研氛圍。講座於2月13日及4月17日舉行，主題分別為「食品與藥物中的化學生物學」及「綠色科技」。4月17日的講座更邀請到土木及環境工程學系呂紹元教授分享理大跨學科合作的可能。

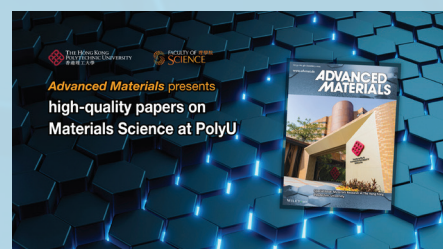


Top Journal *Advanced Materials* Presents High-quality Papers on Materials Science at PolyU

理大於《先進材料》發表特刊展示尖端科學研究成果

Initiated by the Faculty of Science, a special issue of *Advanced Materials* was published to commemorate the 30th anniversary of PolyU. Featuring 28 high-quality papers, the issue highlights PolyU's strengths in professional education, applied research, and international collaboration.

由理學院倡導，理大於國際期刊《先進材料》發表特刊，以慶祝建校30週年。特刊收錄了28篇有關材料科學領域的優秀研究論文，充分展現理大在專業教育、應用研究及國際合作方面的卓越實力。



The Department of Applied Physics contributed a research paper that was recently published in *Nature*, which is one of the most prestigious and reputable scientific journals in the world.



應用物理學系最近於《自然》發表了一篇研究論文。該期刊是全球最負盛名的科學出版物之一，發表各科學技術領域的頂尖研究成果。

Intrinsic Polar Vortex Crystals in A-site Layer-ordered Perovskites – “Nature”

A位層狀鈣鈦礦的本徵極性渦旋晶體——《自然》

Prof. Zhu Ye, Associate Professor, AP

朱葉教授 應用物理學系副教授

Major External Research Funds

獲外界資助項目

In 2025/2026, academics and researchers of our Faculty have secured over HKD200 million in funding from different competitive grant schemes and collaborative funds for their research projects. Below are the major external funds obtained:

理學院的學者及研究人員的科研項目於2025/2026年度共獲得超過2億港元外界科研資金支持，以下為部分主要項目：

Funding Source	Principal Investigator/ Project Coordinator	Funding Amount (HKD)
Croucher Senior Research Fellowships	Prof. Chai Yang, AP	\$3,131,720
Hunan Rijing Sifang Technology Co., Ltd.	Prof. Wong Wai-yeung, Raymond, ABCT	\$2,131,400
Innovation and Technology Fund - Mainland-Hong Kong Joint Funding Scheme (ITF-MHKJFS)	Prof. Yang Ming, AP	\$2,265,500
Innovation and Technology Fund - Partnership Research Programme (ITF-PRP)	Prof. William Tai Chi-shing, ABCT	\$11,000,000
Innovation and Technology Fund - The Hong Kong Research Institute of Textiles and Apparel (ITF-HKRITA)	Dr Tao Peng, ABCT	\$2,100,916
Innovation and Technology Fund - The Hong Kong Research Institute of Textiles and Apparel (ITF-HKRITA)	Prof. Yan Feng, AP	\$4,006,885
Lim Peng Suan Charitable Trust Research Grant	Prof. William Tai Chi-shing, ABCT	\$2,000,000
Man Wah (Hong Kong) Trading Company	Prof. Law Ga-lai, ABCT	\$2,575,116
NSFC 國家自然科學基金委員會	Prof. Benedict Lo Tsz-woon, ABCT	\$2,186,052
NSFC 國家自然科學基金委員會	Prof. Zhao Jiong, AP	\$4,372,104
NSFC 國家自然科學基金委員會	Prof. Zheng Zijian, ABCT	\$4,372,104
Research, Academic and Industry Sectors One-plus (RAISe+) Scheme	Prof. Chai Yang, AP	\$32,607,000
Research, Academic and Industry Sectors One-plus (RAISe+) Scheme	Prof. Simon Lee Ming-yuen, FSN	\$36,744,000
Research Impact Fund	Prof. Zhao Qian, ABCT	\$5,355,000
RGC Research Fellow Scheme (RFS)	Prof. Zhao Jiong, AP	\$5,465,160
RGC Strategic Topics Grant	Prof. Zhao Yanxiang, ABCT	\$32,400,000
Soy-Sky FarmTech Company Limited (Donation)	Prof. Wong Ka-hing, FSN	\$2,000,000

*Please note that the information provided pertains to funds approved before 1 April 2026.

My Approach to Teaching Food and Nutrition: Transforming Knowledge into Practice



我的食品與營養教學理念： 將知識轉化為實踐

“ *My goal is to nurture graduates who are not only knowledgeable, but also reflective and socially responsible practitioners.*

我的目標是培養具備專業知識、能獨立思考
並具社會責任感的畢業生。

”



Dr Christine Li Shi-ying

李詩盈博士

Lecturer,

Department of Food Science and Nutrition

食品科學及營養學系講師

Teaching food and nutrition at the university level is, to me, both a responsibility and a privilege. I view higher education not merely as the transmission of knowledge, but as a transformative journey in which students learn to translate scientific understanding into real-world practice and, ultimately, into meaningful contributions to individuals and communities. This philosophy underpins my approach to teaching, supervision, and curriculum leadership.

Given the applied nature of food and nutrition, I place strong emphasis on authentic, practice-based learning. In practicum and placement subjects, I collaborate with colleagues and external partners to design meaningful, supervised experiences in community and food-service settings. Rather than treating placements as peripheral components, I structure them as coherent learning journeys: students are carefully prepared, engage in guided practice, and critically reflect on their experiences through journals, tutorials, and online debriefings. This “long-arm” supervision model enables students to develop independence while remaining well supported by the academic team.

Service learning represents another cornerstone of my teaching. In FSN2S02 “Service Learning in Nutrition and Healthy Diet”, students co-design and deliver nutrition initiatives with local NGOs, community centres, and schools. During the COVID-19 pandemic, we successfully transitioned these activities into virtual formats—such as cooking videos, online workshops, and social media resources—while maintaining both educational quality and community impact. More recently, I have expanded service learning into an international context in Cambodia, where students collaborate with partner schools to deliver culturally appropriate nutrition programmes. Across both local and global settings, I regard service learning as a powerful means of connecting academic knowledge with real societal needs, while fostering empathy, adaptability, and intercultural competence.





A second key dimension of my teaching is partnership with students. I do not see the curriculum as a fixed product, but as something that can be co-created with learners. Through staff-student partnership initiatives, I engage students in redesigning learning materials for core nutrition subjects. Together, we have developed flipped learning resources—including short videos on portion size and energy density, as well as accessible nutrition label guides—to support the application of concepts in everyday contexts. The outcomes have been encouraging: students demonstrate increased confidence in interpreting nutrition information and improved performance in applied assessments. For student partners, the process also cultivates valuable skills in communication, digital literacy, and teamwork.

Collaboration with colleagues is equally central to my practice. In my roles as programme leader and subject leader, I work closely with teaching teams to ensure that curricula align with professional standards, such as those of the UK Association for Nutrition, while remaining responsive to student feedback. Through regular meetings, we review assessments, share teaching experiences, and consider how best to scaffold students' progression from foundational knowledge to advanced practice. I view my role not as directing change, but as fostering a collegial and supportive environment in which innovation is encouraged—whether through new assessment approaches, digital tools, or enhanced supervision practices.

Across all aspects of my work, I draw on evidence and reflection to inform continuous improvement. Student evaluations, assessment data, external examiner reports, and feedback from community partners are not merely procedural requirements; they are valuable sources of insight. When initiatives do not unfold as intended, I treat these moments as opportunities for dialogue and refinement rather than as shortcomings. This reflective approach not only strengthens my own teaching but also models the professional mindset we seek to instil in our students.

Ultimately, my goal is to nurture graduates who are not only knowledgeable, but also reflective and socially responsible practitioners—individuals who can apply nutrition science with competence, compassion, and integrity. By engaging students in authentic practice, meaningful partnership, and critical reflection, I aim to contribute, in a modest yet meaningful way, to advancing nutrition and health within our communities.



在大學教授食品與營養學，對我而言既是一份責任，也是一種榮幸。我認為高等教育不只是傳授知識，更重要的是幫助學生將所學應用到現實情境中，並轉化為對個人和社會有意義的貢獻。這個想法一直引領著我的教學、學生指導及課程發展方向。

由於食品與營養學本身具有很強的應用性，我特別重視實踐為本的教學方法。在實習及業界／社區實踐課程中，我一直與同事及對外夥伴合作，以社區及餐飲業應用場景，為學生有系統地設計學習課程並提供支援。我並不將實習視為附加環節，而是作為完整的學習歷程來設計：學生在充分準備後將會進行實地實踐，並透過學習日誌、小組討論及網上討論進行整理與強化學習所得。這種「跨領域指導」模式，讓學生在逐步建立自主學習能力的同時，仍然得到持續而適切的支援。

實習課程亦是我教學的重要一環。在 FSN2S02《營養與健康飲食服務學習》課程中，學生與本地非政府組織、社區中心及學校合作，一同設計及推行營養推廣活動。在疫情期間，我們更迅速將實習課程轉為網上形式，例如製作烹飪影片、網上工作坊及社交媒體教材，確保學習效果及對社區的服務得以延續。近年，我亦將實習課程拓展至海外，帶領學生前往柬埔寨，與當地學校合作推行符合當地文化環境的營養教育項目。無論在本地或海外，我都視實習課程為連結學術知識與社會所需的重要橋樑，同時可以培養出學生的同理心、適應能力及跨文化視野。

另一個重要方向是與學生建立夥伴關係。我不把課程視為固定內容，而是可以與學生一起完善的過程。透過師生合作項目，我與學生一起設計營養課程的重點教材。我們開發了一整套課前學習資源，當中包括介紹有關食物份量與能量密度的短片，以及簡單實用的營養標籤指南，幫助學生把知識應用到日常生活中。實際成效顯示，學生在理解營養資訊方面更有信心，在應用方面的表現亦有所提升。同時，他們在過程中亦培養了溝通能力、善用數碼科技技能及團隊合作能力。

與同事協作同樣不可或缺。作為課程主任及科目負責人，我一直與教學團隊緊密合作，確保課程符合專業標準（例如英國營養學會的要求），同時有效回應學生需求。我們會定期檢視和評估課程內容，分享教學經驗，並討論如何更有效地支援學生，協助他們從基礎邁向更深入的課題。我認為自己的角色並非只是單向地推動改變，而是透過嘗試新的評估方式、運用數碼技術，抑是改善教學模式，營造一個開放、互相幫助的環境，讓新想法萌生並得以實踐。

我的整個教學理念一直強調數據的運用，以及不斷作出評估以改善質素。學生評價、學習數據、外部評核意見及合作夥伴的意見，都是寶貴的參考指標。當教學活動未如預期時，我會視之為進步的良機，而不是問題。這種心態不僅有助提升教學質素，亦能夠讓學生理解專業營養工作者應具備的思考方式。

總括而言，我的目標是培養具備專業知識、能獨立思考並具社會責任感的畢業生，讓他們能以專業能力、同理心及誠信應用營養科學。透過實踐學習、師生合作及不斷反思，我希望能為社區的營養與健康發展帶來實實在在的正面影響。

Interdisciplinary Research with Microbes

微生物跨學科研究

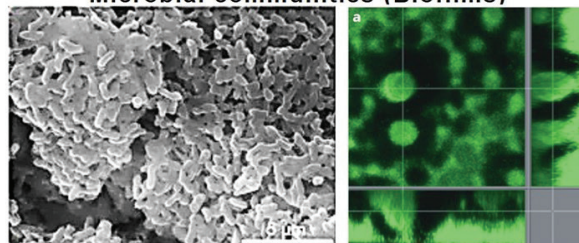
Our research explores how microorganisms live, interact, and influence systems ranging from human health to the surrounding environment. By investigating microbial physiology and the dynamic relationships between microbes, their hosts, and their environments, we aim to uncover fundamental principles of life while developing practical solutions to some of today's most pressing challenges.

Our current research focuses include:

Microbial communities and biofilms

Rather than existing as free-floating cells, many microbes form structured, surface-attached communities known as biofilms. These biofilms can develop on medical devices, within the human body, and in natural environments such as rivers and soil. Far from benign, biofilms are often associated with persistent infections and exhibit strong resistance to antibiotics, posing significant challenges in healthcare. Our research examines how biofilms form, interact with host systems, and evade treatment, with the goal of identifying effective strategies for their control and removal.

Microbial communities (Biofilms)



Drug discovery and alternative antimicrobial therapy

By advancing our understanding of infection mechanisms and antibiotic resistance, we design innovative approaches to control harmful microbes and improve therapeutic outcomes. In response to the global rise in antibiotic resistance, we explore alternatives to conventional bactericidal drugs. These include antivirulence and antibiofilm strategies, which aim to disarm pathogens by inhibiting toxin production or biofilm formation, thereby reducing the selective pressure that drives resistance.

We also investigate bacteriophages—viruses that specifically infect bacteria—as a promising class of targeted antimicrobials. Phages offer the advantage of selectively eliminating harmful bacteria while preserving beneficial microbiota. By studying their interactions with biofilms and host environments, we aim to harness their potential in next-generation therapies. Ultimately, we seek to develop



Prof. Chua Song-lin

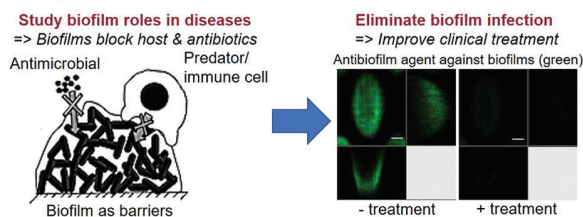
蔡松霖教授

Associate Professor,

Department of Applied Biology and Chemical Technology

應用生物及化學科技學系副教授

combination treatments that integrate alternative agents with traditional antibiotics to enhance efficacy and sustainability. Using advanced screening platforms, we identify novel drug candidates and therapeutic strategies.



Novel lab-on-a-chip for microbiological applications

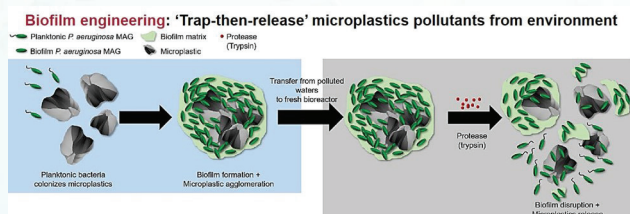
Our research extends beyond conventional laboratory methods by integrating microbiology with cutting-edge technologies such as microfluidics and biosensing. Lab-on-a-chip systems enable precise manipulation of minute fluid volumes, allowing us to recreate controlled, physiologically relevant environments for microbial growth and interaction. When combined with biosensors, these platforms facilitate real-time monitoring of microbial behaviour and responses to stimuli.

These technologies not only advance fundamental research but also hold significant practical potential, including improved diagnostics in healthcare and enhanced quality control in industrial applications.

Microbial engineering for environmental applications

Microorganisms can be engineered to perform valuable functions, such as degrading pollutants or detecting hazardous substances. We apply microbial engineering approaches to areas including pollution control, bioremediation, and sustainable technology development.

For instance, we are developing strategies to detect and remove micro- and nanoplastics—pervasive contaminants increasingly found in ecosystems and even within the human body. This work highlights the potential of microbial biotechnology to contribute directly to environmental protection and sustainability.



Translation to commercial applications

Importantly, our research extends beyond the laboratory to real-world implementation. We are committed to translating scientific discoveries into tangible impact, exemplified by the establishment of our PolyU start-up, MicroFish. The company focuses on developing microbial technologies for pathogen detection, with applications in food safety, agriculture, and healthcare. This reflects our broader vision of transforming scientific innovation into practical solutions that benefit society.

我們的研究致力探討微生物如何生存、互動，並影響人體健康甚至周邊環境等不同系統。透過研究微生物的生理特性，以及微生物、宿主與環境之間的動態關係，我們不僅希望揭示生命運作的基本原理，亦為當前不同的重大挑戰尋找實際可行的解決方案。

我們目前的研究重點包括：

微生物群落與生物膜

生物膜是附著在物體表面並聚集生長的微生物群落，常見於醫療器材表面、人體內部，以及河流、土壤等自然環境。由於生物膜容易導致持續性感染，且對抗生素具有較高抗性，對醫療方面構成重大挑戰。我們的研究重點在了解生物膜的形成機制及其與宿主的互動關係，從而探索更有效的控制與清除方法。

藥物研發與替代抗菌策略

透過深入了解感染機制及抗藥性問題，我們致力開發控制病菌並提升治療效果的創新方法。面對全球日益嚴重的抗藥性問題，我們不再單純依賴傳統以「殺菌」為主的藥物，而是探索其他替代策略，例如抗毒力及抗生物膜方法，透過抑制細菌產生毒素或形成生物膜，削弱其致病能力，同時降低產生抗藥性的壓力。

此外，我們亦著手研究專門感染細菌的噬菌體，作為具潛力的精準抗菌工具。噬菌體可選擇性地消滅有害細菌，同時保留有益菌群。透過研究噬菌體與生物膜及宿主環境的互動機制，我們將發展新一代治療方法，並進一步結合替代療法與傳統抗生素，提升治療效果及可持續性。同時，我們亦利用先進篩選平台，尋找新的藥物及治療策略。

將晶片引入微生物實驗

我們的研究結合創新科技，將微生物感測技術引入微生物學與微流控實驗中。微流控芯片能夠精準控制微量流體，讓我們在可控且接近真實環境的條件下，觀察微生物的生長與互動。這些平台也能搭配生物感測器，即時監測微生物的行為及其對不同刺激的反應。

這些技術不僅有助推動基礎研究，亦具備實際應用價值，例如提升醫療診斷能力，以及改善工業生產應用過程中的品質控制。

微生物工程與環境應用

微生物可透過生物改造工程，賦予特定功能，例如分解污染物或偵測有害物質。為此，我們致力將微生物工程應用於污染控制、生物修復及可持續技術發展等範疇。

例如，我們正研究如何檢測與去除微塑膠及納米塑膠等污染物，這些污染物已廣泛存在於自然環境與人體內。相關研究展示了微生物科技在環境保護方面的實際潛力。

科研成果轉化與應用

我們致力將研究成果轉化為實際應用。團隊在香港理工大學成立了初創公司MicroFish，專注開發以微生物為基礎的病原檢測技術，應用於食品安全、農業及醫療等範疇。這體現了我們將科研成果轉化為具體產品與服務，為社會帶來實際價值的理念。



Event Updates 活動預告

2026 Symposium on Polymeric Liquid Crystalline States and Supramolecular Ordered Structures

2026年海峽兩岸暨港澳高分子液晶態與超分子有序結構學術研討會 (暨第十八屆全國高分子液晶態與超分子有序結構學術論文報告會)

3–5 August 2026, PolyU

2026 China International Gastronomy Symposium

2026國際美食研討會 (中國)

4–5 September 2026, PolyU

The 9th World Chinese Mass Spectrometry Conference

第九屆世界華人質譜大會

6–8 November 2026, PolyU

The 9th Cross-Strait Nutrition Conference

第九屆海峽兩岸暨港澳營養科學大會

14–15 November 2026, PolyU

Awards and Recognition 卓越表彰

Long Service Awards 2025 長期服務獎2025

FS

Ms Ivy Tsui Ming-yin, Clerical Officer II

ABCT

Prof. Joseph Yung Ka-fu, Associate Dean (FS), DoUCEA, ADoHURI & Professor

Prof. Wong Kwok-yin, Chair Professor of Chemical Technology

Prof. Michael Yu, Professor

Prof. Clarence Wong Tsun-ting, Assistant Professor

Dr Bodedla Govardhana Babu, Research Assistant Professor

Dr Wong Wai-ting, Instructor

Dr Yeung Chi-tung, Senior Research Fellow

Dr Chung Sai-fung, Postdoctoral Fellow

Dr Brandon Chan, Research Associate

Dr Paul So Yik-hing, Scientific Officer

Miss Sharon Chan Sau-wai, Technician

Miss Ailsa Yuen, Assistant Executive Officer

AP

Prof. Kathy Leng Kai, Assistant Dean (FS) & Associate Professor

Prof. Dennis Leung, Professor

Prof. Yu Siu-fung, Professor

Prof. Molly Li Mengjung, Assistant Professor

Prof. Yang Ming, Assistant Professor

Prof. Li Mingjie, Assistant Professor

Dr She Xiaojie, Research Fellow

Miss Yonnie Cheung, Senior Executive Officer

Mr Chan Tsz-lam, Technician

FSN

Prof. Wong Ka-hing, DoRiFood, ADoJJRI & Professor

Prof. Kenneth Lo Ka-hei, Assistant Professor

Prof. Daisy Zhao Danyue, Assistant Professor

Dr Leung Ka-sing, Adjunct Associate Professor

Dr Dong Xiaoli, Research Assistant Professor

Miss Cynthia Lau, Assistant Executive Officer

Faculty Staff 學院教學及科研人員

Croucher Senior Research Fellowship 2026	Prof. Chai Yang , Associate Dean (FS) & Chair Professor of Semiconductor Physics, AP
Fellow of the Chinese Chemical Society (FCCS)	Prof. Wong Wai-yeung, Raymond , Dean (FS) & Chair Professor of Chemical Technology, ABCT
Member of The Hong Kong Academy of Sciences	Prof. Wong Wai-yeung, Raymond , Dean (FS) & Chair Professor of Chemical Technology, ABCT
2025 Outstanding Scientific Research Output Awards (Natural Sciences and Engineering Technology) Second Class Award in Natural Sciences	Prof. Zheng Zijian , Vice President (Knowledge Transfer) & Chair Professor of Soft Materials and Devices, ABCT Prof. Chen Sheng , Head and Chair Professor of Microbiology, FSN
PolyU Young Innovative Researcher Award (YIRA) 2026	Prof. Ge Jingjie , Assistant Professor, ABCT

The President's Awards for Outstanding Achievement 2025

Individual Award - Knowledge Transfer: Industry	Prof. Zheng Zijian , Vice President (Knowledge Transfer) & Chair Professor of Soft Materials and Devices, ABCT
Individual Award - Knowledge Transfer: Society	Prof. Wong Ka-hing , Professor, FSN
Team Award - Teaching	Prof. Terence Lee Kin-wah , Associate Head & Professor, ABCT Prof. Mu Quanhua , Assistant Professor, ABCT Prof. Clarence Wong Tsun-ting , Assistant Professor, ABCT Dr Chartia Cheung Ching-mei , Lecturer, ABCT Dr Clare Yan Sau-woon , Lecturer, ABCT Dr Wong Wai-ting , Instructor, ABCT

The 51th International Exhibition of Inventions Geneva

Prize of the Korea Invention Promotion Association; and Gold Medal	Prof. Simon Lee Ming-yuen , Chair Professor of Biomedical Sciences, FSN
Gold Medal with Congratulations of the Jury	Dr Zhao Chen , Postdoctoral Fellow, FSN
Gold Medal	Dr Xie Fengjia , Postdoctoral Fellow, AP
Gold Medal	Dr Tsoi Chi-chung , Postdoctoral Fellow, AP
Gold Medal	Prof. Chua Song-lin , Associate Professor, ABCT
Gold Medal	Dr Ma Yeping , Scientific Officer, ABCT
Gold Medal	Prof. Zhao Xin , Professor, ABCT
Gold Medal	Prof. Zhang Xuming , Associate Head and Professor, AP
Gold Medal	Dr Jiang Heng , Postdoctoral Fellow, AP
Silver Medal	Prof. Zhao Jiong , Professor, AP
	Dr Liu Haijun , Postdoctoral Fellow, AP
	Prof. Hao Jianhua , Head and Chair Professor of Materials Physics and Devices, AP

Faculty Students 學院學生

James Dyson Award 2025 (Hong Kong)	Chan Tak-Keung , PhD student of FSN
Hong Kong Life Sciences Scholarship Awards 2025/26	Rahman Syed Rayan , Undergraduate Student of ABCT

Outstanding Students Award 2025

- The Most Outstanding PolyU Student Award	He Jinyun , Undergraduate Student of ABCT
- Faculty and Department	He Jinyun , Undergraduate Student of ABCT
- Department	Ren Yanhao , Undergraduate Student of AP
	Liu Yawen , Undergraduate Student of FSN

Presidential Student Leadership Award 2025

- Faculty and Department	Ke Shengyi , Undergraduate Student of ABCT
- Department	Wang Qinyan , Undergraduate Student of AP
	Wong Chee Ying , Undergraduate Student of FSN



He Jingyun 何婧芸

The Most Outstanding PolyU Student of the Year 2025/26
2025/26年度理大「最卓越學生獎」

– BSc (Hons) in Applied Biology with Biotechnology

Studying for a BSc (Hons) in Applied Biology with Biotechnology at PolyU's Department of Applied Biology and Chemical Technology (ABCT) has been nothing short of transformative. When I first arrived, I focused solely on grades. It was ABCT's dedicated professors who opened my eyes to a broader vision of excellence.

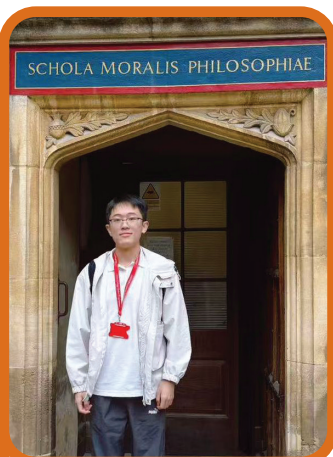
With their guidance, I adopted an interdisciplinary approach, teaching myself programming and pursuing a minor in mathematics. Professors also connected me with invaluable opportunities, referring me to exchange programmes at the University of Cambridge and the University of Waterloo, and recommending me for a research placement at SickKids Hospital in Canada, where I discovered the excitement of scientific inquiry. Beyond academics, ABCT's warm community inspired me to give back. I became a peer mentor and volunteered in the Hong Kong community. These experiences also contributed to my being selected as the Most Outstanding PolyU Student of the Year 2025/26.

I am deeply grateful to the Faculty and ABCT for shaping who I am today.

在理大應用生物及化學科技學系（ABCT）攻讀應用生物兼生物科技（榮譽）理學士課程，對我而言是一段極具啟發性、改變人生的學習旅程。初入學時，我只專注於追求優異成績；幸得學系教授的啟發，我逐漸體會到「卓越」更深層的意義。

在教授的悉心指導下，我開始探索及學習跨學科課題，自學編程並副修數學。教授們亦鼓勵我把握機會，推薦我參加劍橋大學及滑鐵盧大學的交流計劃，更引薦我前往加拿大安大略省多倫多病童醫院（SickKids）進行科研實習，讓我在實驗室中親身體驗科學探索的魅力。除了學術發展，ABCT溫暖的學習環境亦啟發我積極回饋社會。我因此成為了朋輩導師，並投身香港社區的義工服務。這些經歷亦讓我榮獲2025/26年度理大「最卓越學生獎」。

我衷心感謝學院及學系的栽培與支持，成就了今天的我。



Zhang Changyu 张畅羽

– BSc (Hons) in Physics with a Secondary Major in Artificial Intelligence & Data Analytics (AIDA)

The Department of Applied Physics at PolyU has an excellent academic atmosphere. I undertook a two-year research project (URIS) under the guidance of Prof. Yang Ming. Through this project, I not only learned Density Functional Theory (DFT) and how to use computational software, but also realized that inspiration is crucial in research. I also participated in an exchange programme at the University of Science and Technology of China. During this period, I conducted a project on the electro-optic effect in crystals and subsequently took part in the National Undergraduate Physics Experiment Competition.

Additionally, the department's flexible curriculum allowed me more time to enrich my university life.

In my spare time, I often went hiking, which helped me stay active while appreciating the beautiful scenery of Hong Kong. In Year 2, I went to Kyoto University in Japan for a semester-long exchange. During this time, I met outstanding peers from Kyoto University and around the world, which broadened my horizons both academically and personally.

理大應用物理學系擁有非常優秀的學習氣氛。在楊明教授的指導下，我展開了為期兩年的本科生科研計劃（URIS）。透過此科研項目，我不僅掌握了密度泛函理論（DFT）及應用相關計算軟件的技能，更深刻體會到創新靈感在科研工作中起到的關鍵作用。我亦曾前往中國科學技術大學進行交流學習，期間展開了有關晶體電光效應的研究，並參加了全國大學生物理實驗競賽。

此外，學系靈活的課程設計讓我有更多時間豐富我的大學生活。閒暇時，我經常參與遠足活動，在鍛鍊體能之餘，亦能欣賞香港優美的自然景色。於大學二年級期間，我更前往日本京都大學進行海外交流。期間，我結識了來自京都大學以及世界各地優秀的同儕，無論在學術還是生活層面，均大大拓闊了我的視野。



Chan Tak-keung 陳德強

– Doctor of Philosophy, Department of Food Science and Nutrition

I am currently pursuing a PhD in the Department of Food Science and Nutrition at PolyU, focusing on marine ecology and sustainable seafood. I am honoured that my work has received recognition through international awards. These affirmations have strengthened my belief that research is not only about the pursuit of knowledge, but also about addressing real-world challenges.

I would like to express my sincere gratitude to Prof. James Fang for his guidance and inspiration. He encouraged me to step beyond academia by founding a tech start-up and a non-profit organisation, enabling me to promote marine technology, conservation, and fisheries knowledge across diverse sectors, including multinational corporations, the HKSAR government, overseas universities, local schools, elderly homes, and students with special educational needs (SEN).

I am also grateful to Marine Ecology and Aquaculture Laboratory (MEAL) and the Industrial Centre for their support. This journey has taught me that while changing the world may seem ambitious, through dedicated research and meaningful action, we can make a difference.

我目前於理大食品科學及營養學系攻讀博士學位，研究方向為海洋生態及可持續海產，並有幸在多個國際獎項中獲獎。這些成果讓我更加確信，科研不僅是知識的探索，更能回應現實世界的需要。

衷心感謝方家熙教授在研究上的悉心指導與啟發。他鼓勵我走出學術框架，成立創科公司及非牟利組織，讓我得以在不同層面推廣海洋科技、生態保育及漁業知識，服務對象涵蓋跨國企業、政府部門、海外大學、本地中小學、安老院舍及有特殊教育需要的學生。

我亦感謝海洋生態及水產養殖實驗室及工業中心一直以來的支持，讓我能研究路上與不同夥伴交流學習。這段旅程讓我深刻體會到，改變世界或許看似遙遠，但透過持續的科研與實踐，我們確實可以讓世界變得更美好。





PolyU SCIENCE Young Talents Competition 2026 理大科學青年人才比賽2026

The final round of the PolyU SCIENCE Young Talents Competition 2026 concluded successfully on 21 March. From over 180 preliminary teams, the top 30 advanced to the final, where they participated in a series of engaging and challenging scientific experiments across Biology and Food Science, Chemistry, and Physics at PolyU's state-of-the-art laboratories.

Throughout the competition, participants demonstrated exceptional dedication, creativity, and teamwork in their pursuit of excellence. The awards ceremony, held on the same day, celebrated their remarkable achievements.

We warmly congratulate all winning teams and extend our sincere appreciation to all participants from both the preliminary and final rounds. We also express our heartfelt gratitude to the supporting secondary schools, the PolyU judging panel and organizing committee for their invaluable contributions to the success of this event.

「理大科學青年人才比賽2026」決賽已於3月21日圓滿舉行！從超過180多隊初賽隊伍中脫穎而出的30強精英，當日於理大校園進行了精彩決賽。決賽隊伍於理大先進的科研實驗室挑戰一系列有關生物及食品科學、化學、和物理方面既有趣又具啟發性的科學實驗。

比賽過程刺激緊張，參賽隊伍施展渾身解數，爭奪冠軍寶座。頒獎典禮亦於同日舉行，並即時公佈得獎隊伍名單。

再次恭賀所有獲獎隊伍，並衷心感謝所有參與了預賽和決賽的同學。我們亦感謝各參賽學校、理大評審團及比賽籌委會的鼎力支持，讓本次比賽得以順利進行。



Details of Winning Teams
優勝隊伍名單詳情



Event Video
比賽影片



PolyU Science Creates Impact 理大科學 探理創新

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