

Hong Kong Baptist University

Faculty of Science

List of Science Talks for 2025/26

Topic No.	Discipline	Topic	Language	Speaker	Student Level	HKDSE-related Subject(s)	Description
1	Biology	Innovating Agriculture for a Changing Climate: How Smart Farming Can Save Our Future	English	Dr Anna LEUNG	F.4 - F.6	Biology Geography	There is an urgent need to innovate agriculture in response to climate change’s impact on food production. In this talk, students will learn how traditional farming faces challenges such as extreme weather and limited land, especially in Hong Kong, and introduces various smart farming technologies such as vertical farming, hydroponics, drones, and climate-resilient crops. It encourages young people to get involved through growing plants and exploring careers in sustainable agriculture, helping build a resilient, eco-friendly food future.
2	Biology	Genetically Modified Organisms (GMO) 101 知多一點點基因改造生物	Cantonese / English 廣東話 / 英語	Dr Patrick YUE 余英傑博士	F.3 - F.6	Biology	This talk provides an overview of genetically modified (GM) foods, covering their definition, development, and the science behind genetic engineering. Students will learn about the concepts used to modify crops, the benefits, such as increased yield and pest resistance, and the potential risks involved. We will also discuss the ethical considerations and ongoing debates surrounding GMOs, along with their impact on health and the environment. By the end, students will gain a better understanding of GM foods and their role in modern agriculture and food security.
3	Biology	Innovation and Technology Entrepreneurship – A Simple Tool for Cell Migration Study 創新科技及青年創業 — 細胞劃痕器的研發及應用	Cantonese / English 廣東話 / 英語	Dr Patrick YUE 余英傑博士	F.4 - F.6	Biology	In recent years, the intersection of innovation, technology, and entrepreneurship in advancing scientific discovery and improving health outcomes has become a new trend globally. This talk introduces an innovative laboratory tool designed for studying cell migration, a crucial process in fields such as biomedical and cancer research. The innovative technology behind this tool, its development, and its practical applications in scientific research will be overviewed. Through this in-house example, students will explore how entrepreneurship drives technological advancements in the life sciences.
4	Biology	Small Things Can Make a Giant Impact - Microplastics 101 微塑料的迷思	Cantonese / English 廣東話 / 英語	Dr Patrick YUE 余英傑博士	F.4 - F.6	Biology	This talk explores microplastics, tiny plastic particles that significantly impact our environment. Students will learn what microplastics are, how they form, and their widespread presence in oceans, soil, and food. We will discuss the adverse effects of microplastics on wildlife and human health, as well as potential solutions to mitigate their impact. Some scientific studies carried in local areas and food samples will be overviewed. Finally, students will gain a deeper understanding of the importance of addressing microplastics and how individual actions can help create a cleaner, healthier planet for future generations.
5	Biology	Conserving marine biodiversity: Insights from deep-sea excursions 保護海洋生物多樣性: 深海考察的啟示	Cantonese / English 廣東話 / 英語	Dr Veronica CHAN 陳慧儀博士	F.4 - F.6	Biology Geography	Covering 70% of the planet and home to a stunning array of marine life, the oceans play a critical role in maintaining ecological balance and supporting the livelihoods of millions around the world. In this talk, we will explore the rich marine biodiversity in Hong Kong's water and the deep seas of the South China region, and discuss how we can conserve the oceans and their fragile ecosystems.
6	Biology	Towards a Carbon Neutral City 邁向碳中和城市	Cantonese / English 廣東話 / 英語	Dr Veronica CHAN 陳慧儀博士	F.4 - F.6	Biology Geography	Global warming and other climate change impacts are becoming more serious. Many cities, including Hong Kong, have been actively promoting a low-carbon economy and reducing carbon emissions. Hong Kong has committed to achieving carbon neutrality before 2050. In this talk, we will discuss the key principles of sustainable development, climate change mitigation and resilience, and how Hong Kong can achieve carbon neutrality through different strategies.
7	Chemistry	Chemistry and Computers: From Making Movies to Designing Drugs 化學與電腦: 從動畫模型到藥物設計	Cantonese / English 廣東話 / 英語	Dr CHAN Ho Ting 陳皓霆博士	F.4 - F.6	Chemistry	In this talk, we will introduce how Chemistry, as the central science, plays an important role in Biology and Medicine, and discuss how chemical knowledge and computer technology have advanced drug discovery.
8	Chemistry	Polymer in Our Daily Life 日常生活中的聚合物	Cantonese / English 廣東話 / 英語	Dr YIM King Him 嚴敬謙博士	F.4 - F.6	Chemistry	Polymers are important man-made products in our daily lives. This seminar covers the fundamentals of polymerization and illustrates how polymers are used in daily life applications. The challenges of plastic pollution and sustainable solutions through green chemistry will also be discussed.
9	Chemistry	The Role of Chemistry in Our Lives	English	Prof ALL Angelo Homayoun	F.1 - F.6	Chemistry	Chemistry is quietly working behind the scenes. It’s not just a subject in school; it’s the science of life itself. Understanding chemistry helps us make smarter choices, solve global problems, and appreciate the invisible magic that keeps our world running.

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10	Computer Science	Blockchains for Smart Cities 面向智慧城市的區塊鏈	Cantonese / English 廣東話 / 英語	Prof DAI Henry 戴弘寧教授	F.4 - F.6	Biology Information & Communication Technology Mathematics Mathematics (M1) Mathematics (M2) Physics	It is an urgent need to achieve a smart and sustainable city while the integration of multiple ICT technologies faces many challenges. As an emerging technology, blockchain can provide general interfaces to support diverse trustworthy smart city applications. In this talk, I will introduce the basics of blockchain technology and showcase how to adopt blockchain to achieve a smart city.
11	Computer Science	Data is the New Oil - How Google and Facebook Make Money from Data 數據就是新石油 – 搜尋器和社交媒體怎樣從數據中賺錢	Cantonese / English 廣東話 / 英語	Dr YU Wilson 余仕斌博士	F.2 - F.6	Economics Business, Accounting & Financial Stuides Information & Communication Technology Mathematics Mathematics (M1) Mathematics (M2) Physics	We will explore how your online activity becomes a valuable resource. Discover how giants like Google and Facebook collect and analyze the big data to power their targeted advertising empires.
12	Computer Science	A.I. - A journey Co-evolving with SciFi Movies 人工智能 - 從科幻電影說起	Cantonese / English 廣東話 / 英語	Dr CHAN Chun Pong 陳振邦博士	F.4 - F.6	Biology Information & Communication Technology Mathematics Mathematics (M1) Mathematics (M2) Physics	From sci fi inspirations to real world breakthroughs, AI now powers systems that can sense, think, and act—spanning conversational agents, game playing champions, and agile robots. In this talk, we trace AI’s journey from movies to reality, highlighting applications in healthcare, finance, and retail, and how machine learning enables perception, decision making, and personalized services. We also examine the risks of a digitally transformed world—job displacement, algorithmic bias, and synthetic media—and explore ethical dilemmas such as autonomous vehicle decision making.
13	Computer Science	See Through the Glass to Feel Our World 穿透玻璃的幻象	Putonghua / English 普通話 / 英語	Prof WAN Renjie 萬人杰教授	F.4 - F.6	Design & Applied Technology Technology & Living Physics Visual Arts	Discover the invisible with See Through the Glass to Feel Our World! Our cutting-edge image processing technology removes distracting reflections, revealing the true scene behind the glass like magic. From smart cameras to AR experiences, unlock clearer, richer visual understanding. Step into the future of vision—where algorithms don’t just see, they feel. Don’t just look—perceive.
14	Computer Science	The Invisible Cloak for Privacy Protection in the Cyber World 網絡世界的隱形斗篷	Cantonese / English 廣東話 / 英語	Dr WANG King Hang 王景行博士	F.4 - F.6	Information & Communication Technology Mathematics Mathematics (M1) Mathematics (M2) Physics	The rapid development of the Internet has brought issues of cybersecurity and personal privacy into the everyday lives of the general public. Establishing your own information security has become especially important. In this talk, we will explore some simple and interesting theories about information security and personal privacy, as well as how to create your own invisible cloak in the online world.
15	Computer Science	Time Series Applications in Real Life 時間序列在現實生活中的應用	Cantonese / English 廣東話 / 英語	Prof CHOI Koon Kau 蔡冠球教授	F.4 - F.6	Biology Information & Communication Technology Mathematics Mathematics (M1) Mathematics (M2) Physics	Nowadays, ubiquitous sensors generate vast amount of time series data, enabling applications across smart grids, healthcare, human action recognition, and more. In this talk, we will showcase our key findings and applications from time series data analysis. We will also demonstrate how machine learning techniques have enhanced time series analysis.
16	Computer Science	Understanding Motion Through Language of the Dance: AI in Motion Science and Performing Arts 理解動作的語言：AI在動作科學與表演藝術中的新角色	Putonghua / English 普通話 / 英語	Prof CHEN Jie 陳杰教授	F.4 - F.6	Information & Communication Technology	Imagine creating a Hollywood-level movie or video game from your laptop. Until recently, the stunning 3D worlds and visual effects (VFX) we see on screen required huge teams, years of work, and a massive budget. Now, Artificial Intelligence is shattering those barriers. This talk explores how AI is revolutionizing animation and game design—generating assets, simulating light, and creating motion in minutes, not months. Discover how these powerful new tools are democratizing creativity, empowering individual artists to bring their biggest ideas to life without a studio's resources. See how the future of storytelling is being rewritten.
17	Mathematics	Algorithm in Everyday Life 日常演算法應用	Cantonese / English 廣東話 / 英語	Dr LAU Shek Kwan 劉碩鈞博士	F.1 - F.6	Mathematics	This talk introduces the fundamental concepts of computer simulation through relatable, real-world examples drawn from everyday life. We’ll explore how simulation helps us understand and model diverse scenarios—from managing queues at supermarkets, to visualizing atomic interactions in a hydrogen bomb during the Cold War, to calculating areas without using mathematical formulas. Through these examples, students will discover how powerful and versatile simulation methods can be in both science and daily problem-solving.

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18	Mathematics	Behind the Stethoscope: The Math and Stats Powering Modern Medicine 聽診器背後：推動現代醫學的數學與統計學	Cantonese / English 廣東話 / 英語	Dr LUO Dehui 羅德惠博士	F.4	Mathematics	The topic introduces the essential role of mathematics in healthcare. Using real-world examples—from calculating drug dosages to analyzing disease outbreaks—it demonstrates how math drives medical advancements. We also explain how researchers estimate missing data in clinical studies, making complex statistical concepts accessible. Finally, we highlight STEM careers in medicine, inspiring students to see math as a powerful tool for solving real-life problems.
19	Mathematics	Binary Decimals in the Art of Paper Folding 摺紙藝術中的二進制小數	Cantonese / English 廣東話 / 英語	Prof LAM Kei Fong 林其鋒教授	F.4 - F.6	Mathematics	This talk explores the surprising connection between binary decimals and the ancient art of paper folding. Through hands-on activities, students discover how simple folds can reveal complex mathematical patterns rooted in binary numbers. The session is highly interactive and adaptable for different age groups, making abstract numerical concepts both tangible and fun. The talk can be tailored in length and depth, with the main goal of sparking curiosity and showing how mathematics can unfold in unexpected places—like a single sheet of paper.
20	Mathematics	Math Romance: Using Numbers to Study Problems of Love 數毒求戀期: 用數字理解愛情難題	Cantonese / English 廣東話 / 英語	Dr PANG Chung Yin 彭頌賢博士	F.1 - F.6	Mathematics	This talk applies the basic concepts of mathematical modelling to problems in different stages of romance, such as finding the number of suitable partners, how to impress your partner, etc. Each problem is explained through a BU-produced short comedy film and games with the audience. The talk can adjust the problems to the level of the students, and the length of the talk is flexible, depending on the number of problems covered. The main goal is to have fun with mathematics outside the classroom setting.
21	Mathematics	Nature vs Nurture: Uncovering the Genetics of Behavior 天性與環境：行為特質的遺傳學奧秘	Cantonese / English / Putonghua 廣東話 / 英語 / 普通話	Dr WU Tian 吳天博士	F.4 - F.6	Biology Mathematics	This talk for Form 4-6 students explores genetic and environmental influences on behavioral traits, such as personality and digital engagement, via twin studies. It presents statistical concepts, including correlation and heritability, to quantify genetic contributions. It also addresses ethical concerns, referencing Nazi eugenics. Through interactive polls, it engages students, inspiring them to recognize statistics as a vital tool for investigating scientific questions in behavioral genetics.
22	Mathematics	The Use and Misuse of Statistics in Tracing the Origin of COVID-19 統計學在新冠溯源中的作用和誤用	Cantonese / English 廣東話 / 英語	Prof CHIU Sung Nok 趙崇諾教授	F.4 - F.6	Mathematics	This talk aims to explain, in layman’s terms, how cutting-edge statistical research was conducted. The story begins with the global media coverage of a Science paper claiming that the Huanan Seafood Market was the epicenter of the COVID-19 pandemic. It then moves to reports by Newsweek and the SCMP on our recent paper in the Journal of the Royal Statistical Society, which revealed that the original claim was based on a misuse and abuse of basic statistics. Finally, we conclude by explaining the rigorous analysis in accessible terms, without assuming any prior knowledge of statistics.
23	Mathematics	To infinite, and beyond 探索無窮的奧秘	Cantonese / English / Putonghua 廣東話 / 英語 / 普通話	Dr XIONG Zewei 熊澤蔚博士	F.5 - F.6	Mathematics	Discover the fascinating world of infinity! In this engaging talk, we'll explore mind-bending ideas about endlessness—what infinity really means, and how it appears in math, nature, and the universe. You'll see surprising experiments and visual illusions that bring infinity to life, challenging your perceptions and sparking your curiosity. Join us to unravel the mysteries of the infinite, and see how this incredible concept shapes our understanding of the world around us. Prepare to be amazed!
24	Mathematics	What is Mathematics? 數學是甚麼？	Cantonese / English 廣東話 / 英語	Dr SUN Pak Kiu 辛百橋博士	F.4 - F.6	Mathematics	This talk explores the evolution of mathematics, from ancient geometry to modern patterns, highlighting abstract notation, axioms, deductive proofs, and real-world applications like GPS, to inspire students about the beauty and relevance of mathematics in daily life.
25	Physics	Green Energy Innovation Towards a Sustainable Future 綠色能源的創新發展	Cantonese / English 廣東話 / 英語	Dr CHOI Wing Hong 蔡永康博士	F.1 - F.6	Physics	Solar energy is one of the most abundant resources in nature. To transition our society toward a sustainable future, we need reliable technologies to harness this energy. Solar photovoltaic (PV) technology has emerged as a successful solution, efficiently converting sunlight into electricity. In this talk, we will explore the evolution of solar PV technologies, highlighting key advancements and applications. We will also discuss the impact of these innovations on energy efficiency and accessibility, as well as future prospects in the field.

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26	Physics	Order vs Chaos: How Criticality Shapes Intelligence in Nature and Machines 秩序與混沌之間: 臨界性如何塑造自然與機器中的智能	English / Putonghua 英語 / 普通話	Prof TANG Qianyuan 唐乾元教授	F.4 - F.6	Information & Communication Technology Physics	What makes something intelligent? Is it a huge flock of birds moving together, or complex thought in your brain? Scientists believe intelligence comes from a perfect balance between order and disorder. This sweet spot is “criticality”, or “edge of chaos”. It's where complex behaviour emerges in nature, from ant colonies to our brains. Today, this idea is helping us build smarter AI. We will explore how designing machines to exist in this delicate equilibrium allows them to learn and adapt, and how this principle could unlock universal intelligence.
27	Physics	Warm in Winter and Cool in Summer 冬暖夏涼的建築材料創新	English / Putonghua 英語 / 普通話	Prof WANG Shancheng 王善成教授	F.4 - F.6	Geography Physics	Hong Kong, as a “concrete forest”, faces the challenge of high energy consumption for air-conditioning. In detail, more than 90% of the electricity generated in Hong Kong is consumed by the building. At the same time, more than one-third of the energy is used for air-conditioning. In this talk, I will introduce the recent material development used in building to provide carbon-free heating and cooling power and cut off the air-conditioning energy, including radiative cooling coatings, smart windows, and phase change heat storage materials. Their working principles, development strategies, and effects on the building energy saving will be introduced.
28	Physics	Physics and Traditional Chinese Medicine 物理與中醫	English / Putonghua 英語 / 普通話	Prof TIAN Liang 田亮教授	F.4 - F.6	Physics	In this Science Talk, we explore how modern physics concepts like entropy—describing disorder or uncertainty—can help us understand the holistic diagnoses of Traditional Chinese Medicine (TCM). Using AI and physics-inspired models, we show how TCM syndromes, much like entropy in physics, represent complex physiological states and disease patterns. By linking symptom patterns with herbal therapies in a quantitative framework, our research highlights how TCM can inform new biomedical approaches, bridging ancient wisdom with modern scientific insight for personalized healthcare.