Chemistry of Hydrogen: Past, Present, and Future
氫的化學：過去、現在與未來

Dr. CHAN Ka Long Donald
Department of Chemistry
The Chinese University of Hong Kong

Hydrogen is estimated to be the most abundant element in the universe. Despite its simplest atomic structure among all elements in the periodic table, hydrogen is remarkable for being able to form a great number of compounds. It is an essential component in most forms of life on our planet. Today, hydrogen is also used in oil refining and chemical production on an industrial scale. However, the current hydrogen production heavily relies on fossil fuels, resulting in a significant amount of carbon dioxide emissions. To address the growing demand for hydrogen while reducing carbon emissions, alternative pathways for hydrogen production are necessary.

This lecture covers basic chemistry of hydrogen and its significance in the chemical and energy industries. Furthermore, this lecture discusses the potential of hydrogen as an energy carrier for a low-carbon future. Students will be able to appreciate the importance of chemical knowledge in the sustainable development of our society.

Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese
Suitable Level:	S.4 or above (Prefer students who study Chemistry)
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	December 2023 and April - July 2024
Equipment:	PowerPoint projector, microphone

Dr. CHAN Ka Long Donald obtained his B.Sc. and Ph.D. in Chemistry from The Chinese University of Hong Kong in 2012 and 2017 respectively. He subsequently joined the local research and development sectors, working on improvement and commercialization of nano-structured materials and functional polymers. In 2019, he returned to The Chinese University of Hong Kong as a Lecturer. His research interests focus on environmental applications of advanced materials.

陳家朗博士分別於 2012 年及 2017 年取得香港中文大學化學系學士學位及博士學位。他隨後在本地的研發部門工作，致力推動納米結構材料和功能性聚合物的改良及商品化。他於 2019 年重返香港中文大學成為講師。他的研究興趣集中在先進材料於環境領域的應用。

Chemistry of Coffee
咖啡的化學

Dr. HAU Chun Kit Sam
Department of Chemistry
The Chinese University of Hong Kong

The coffee beverage is one of the favourite drinks in the world. It is prepared from roasted darkly coloured coffee beans, which is also known as "black gold", to give us a bitter and slightly acidic taste. In this talk, students will learn about the magic behind this impressive beverage, including the information about the coffee grading, the decaffeination process, brewing extraction methods, coffee compounds and derivatives.

Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October 2023 – July 2024
Equipment:	PowerPoint projector, microphone

Dr. HAU Chun Kit Sam received his B.Sc. (First Class Honour) in Chemistry at Hong Kong Baptist University in 2005 and obtained his Ph.D. in the area of Organic Synthesis from the Department of Chemistry of The Chinese University of Hong Kong in 2010. He spent four years in the same department as a postdoctoral fellow, working on X-ray Crystallography and Structural Characterization. In 2019, he returned to the Department of Chemistry of The Chinese University of Hong Kong and is currently a Lecturer. His research focuses on crystal engineering and coordination network assembly.

侯俊傑博士於 2005 年本科畢業於香港浸會大學化學系，2010 年於香港中文大學化學系獲得博士學位。隨後他續在香港中文大學從事了四年多博士後工作，致力研究 X 射線晶體學和晶體結構分析。他於 2019 年重返香港中文大學，並擔任講師。他目前的研究方向是晶體工程和多方位配位化合物的自組裝。

When Chemistry meets Medicine: A Story of Chemical Coatings in Orthopedic Applications

「化」「骨」療法：化學塗層的骨科醫學應用

Professor NGAI To
Department of Chemistry
The Chinese University of Hong Kong

Trauma-, sports- and aged-related musculoskeletal injuries impose huge medical and socioeconomic burdens to our patients, families and society. The needs for medical device and implants are increasing, especially in our aging society and society with rapid development of traffics and sports. However, most of the current commercially available medical devices and implants for orthopaedic applications are made of permanent metals such as stainless steel and titanium that are too rigid for achieving biological fixation and subsequent tissue healing. This talk will highlight how chemists synergize with clinical scientists to develop innovative biodegradable metallic implants with chemical coatings for orthopedic applications.

Presentation Mode:	Face to Face
Language of Talk:	English / Cantonese / Mandarin
Suitable Level:	S.4 or above
Talk Duration:	45 – 60 minutes
Audience Size:	30 or above
Speaker Availability:	October 2023 - April 2024
Equipment:	PowerPoint with projector, microphone

Professor NGAI To (魏濤) is the Assistant Dean (Research) of the Faculty of Science at The Chinese University of Hong Kong (CUHK), and Fellow of the Royal Society of Chemistry (FRSC). He received his B.Sc. in Chemistry at CUHK in 1999. In 2003, he obtained the Ph.D. at the same university, where he worked on light scattering and polymer interaction in solution. He awarded Croucher Fellowship and moved to BASF (Ludwigshafen, Germany) in 2003 as the Postdoctoral Fellow for two years, working on colloids and surface chemistry. After a short postdoctoral training in the Chemistry Department at the University of Minnesota in 2005, he joined the Chemistry Department at CUHK in 2006 as a Research Assistant Professor. He has been appointed as an Assistant Professor in 2008, and promoted to Associate Professor in 2012. In 2017, he was promoted to Professor. His current research interests center around the colloids, surface chemistry, polymers and soft matter.

The Future of Plastic
塑膠的未來

Professor NGAI To
Department of Chemistry
The Chinese University of Hong Kong

We use plastic-based products in various fields, such as food packaging, electronics, light-weight electric vehicles, construction, and many other fields. Despite these benefits, the use of plastics is also causing major environmental challenges. Every year, about 16 billion disposable coffee cups are consumed and half a billion plastic straws are discarded every day worldwide. Most plastics are not degradable and common scheme of recycling has been largely ineffective. Most single-use plastics go directly into waste and then are dumped to landfill and into oceans, which has caused significant harm to environment and marine life. In this lecture, I will discuss how important plastic materials are produced and their desirable properties. In addition, the challenges of recycling the plastics we use today and the current development of the use of bio-based and/or biodegradable polymers will be highlighted.

Presentation Mode:	Face to Face
Language of Talk:	English / Cantonese / Mandarin
Suitable Level:	S.4 or above
Talk Duration:	45 – 60 minutes
Audience Size:	30 or above
Speaker Availability:	October 2023 - April 2024
Equipment:	PowerPoint with projector, microphone

Professor NGAI To (魏濤) is the Assistant Dean (Research) of the Faculty of Science at The Chinese University of Hong Kong (CUHK), and Fellow of the Royal Society of Chemistry (FRSC). He received his B.Sc. in Chemistry at CUHK in 1999. In 2003, he obtained the Ph.D. at the same university, where he worked on light scattering and polymer interaction in solution. He awarded Croucher Fellowship and moved to BASF (Ludwigshafen, Germany) in 2003 as the Postdoctoral Fellow for two years, working on colloids and surface chemistry. After a short postdoctoral training in the Chemistry Department at the University of Minnesota in 2005, he joined the Chemistry Department at CUHK in 2006 as a Research Assistant Professor. He has been appointed as an Assistant Professor in 2008, and promoted to Associate Professor in 2012. In 2017, he was promoted to Professor. His current research interests center around the colloids, surface chemistry, polymers and soft matter.

Nano and Medicine
納米醫學

Professor LI Hung Wing
Department of Chemistry
The Chinese University of Hong Kong

Development of nanomaterials and nanotechnology has been attracting attention in scientific research worldsidein the last decade. Nanomaterials have unique properties that make them very promising to be applied in many different fields, including textile, electronics and medicine. In this talk, I will introduce the basic composition of nanomaterials and their potential applications in biomedical areas.

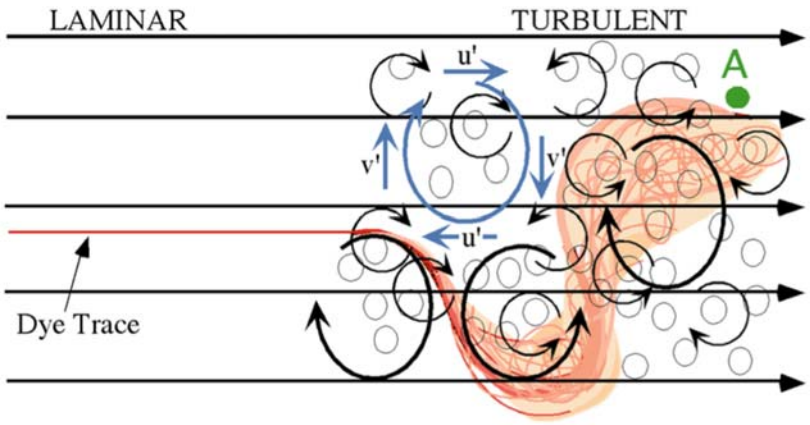
Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October 2023 to July 2024
Equipment:	PowerPoint projector, microphone

Professor LI Hung Wing is an Associate Professor in the Department of Chemistry, The Chinese University of Hong Kong. She received her B.Sc. degree in Chemistry Science from The Chinese University of Hong Kong and Ph.D. degree in Analytical Chemistry from Iowa State University and post-doctoral training from University of Chicago. Her research interest is development of novel bioanalytical techniques for disease detection and treatment using nano-materials.

Turbulence in our atmosphere
大氣中的湍流運動

Dr. AU YEUNG Yee Man Andie
Earth and Environmental Sciences Programme
The Chinese University of Hong Kong

It is of common knowledge that a bumpy ride on a plane is due to turbulence. But what is turbulence? Turbulent flow is often compared to laminar flow in the two major types of fluid on earth - the atmosphere and the ocean. It is not only related to your bumpy plane ride, it also plays a major role in transport of heat, momentum and matter (namely moisture and air) in our atmosphere. In the talk we will mention the main causes and approaches to study turbulence.



A schematic diagram showing the movement of a fluid from the left to the right. It starts with laminar flow (on the left) and then it quickly becomes turbulent flow (on the right), which contains a lot of eddies (swirling structure). The injected red dye on the left shows the fluid motion. The flow enters the turbulent area and it is carried by the eddies to reach point A.

The energy of the larger-sized eddies is ultimately transferred to the smaller-sized and so on, as described by Lewis Fry Richardson (1881-1953, a mathematician, physicist and meteorologist),

"Big whirls have little whirls,
That feed on their velocity;
And little whirls have lesser whirls,
And so on to viscosity."

Presentation Mode:	Face to Face
Language of Talk:	Cantonese
Suitable Level:	S.3 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	November 2023 – July 2024
Equipment:	PowerPoint with projector, microphone

Dr AU-YEUNG Yee Man Andie joined CUHK as an Assistant Lecturer in the Faculty of Science in 2016 and she is now a Lecturer in Earth and Environmental Sciences Programme. She has been working on atmospheric science research projects and is particularly interested in tropical meteorology. The projects she has worked on include exploring the opportunities to use computer simulation models to make typhoon seasonal forecasts in the Western North Pacific region and how urbanization (or land surface roughness) could affect TC moving tracks.

歐陽綺雯博士於2016年以助理講師身份加入香港中文大學，現為地球與環境科學課程講師。在加入中大前，他一直從事有關大氣科學研究，當中對熱帶氣象學尤其有興趣。相關經驗包括研究用電腦模擬方式去預測西北太平洋颱風季度活動，以及城市化對颱風路徑的潛在影響。

Extreme Weather and its Forecasting
極端天氣及其預報

Dr. LI Kwan Kit Ronald
Earth and Environmental Sciences Programme
The Chinese University of Hong Kong

Extreme weather events, such as intense heatwaves and devastating floods, are becoming more frequent across the globe. How much do we understand extreme weather? How do weather forecasts perform in terms of these extremes? How is global warming affecting their intensity and frequency? We shall first learn about the fundamentals of weather forecasting. Then, we shall investigate some recent case studies of extreme weather, and our ability as well as limitation in forecasting them. Finally, we shall discuss what the future holds for extreme weather under global warming.

Presentation Mode:	Face to Face / Online
Language of Talk:	English
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	April 2024 to July 2024
Equipment:	PowerPoint projector, microphone

Dr. LI Kwan Kit Ronald is an Assistant Lecturer in the Earth and Environmental Sciences Programme, at The Chinese University of Hong Kong. He received his Ph.D. degree in Atmospheric Physics from the University of Oxford. He is currently teaching courses in clouds and atmospheric dynamics. His research interests include weather and climate forecasting.

Evolution from single molecules to organisms
從簡單分子到生物體的演變

Professor HUI Ho Lam Jerome
School of Life Sciences
The Chinese University of Hong Kong

"How do we become who we are?" This is the question that I always keep asking myself. When one tries to think about the answer of the question, it certainly has more than genuine scientific values for one to explore - it also triggers and promotes our positive attitude towards "life". What is life then? As a scientist and teacher at the university, we try our best every day to get a better understanding of it. But now, one does not need to wait to become a researcher before thinking about it, and here's everyone's opportunity! In this talk, I will take you to the latest development on the understanding of the origin and evolution of life.

Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45-60 minutes
Audience Size:	20 or above
Speaker Availability:	November - December 2023
Equipment:	PowerPoint projector, microphone

Professor HUI Ho Lam Jerome (許浩霖) is the Professor of the School of Life Sciences, and Director of the Biology Programme at The Chinese University of Hong Kong. He received his doctoral degree at The University of Oxford, and his current main research interests include insect and arthropod biology, marine biotechnology, molecular ecology, conservation of biodiversity, zoonotic diseases, insect-plant interactions, and animal evolution.

Where do we come from?
我們從哪裡來？

Professor HUI Ho Lam Jerome
School of Life Sciences
The Chinese University of Hong Kong

Where do we, *Homo sapiens* come from; and how do we relate and different to other organisms and hominins have always been a central question in biology. In 2022, the Nobel Prize in Physiology or Medicine is awarded to Svante Pääbo "for his discoveries concerning the genomes of extinct hominins and human evolution". In this talk, I will introduce the basic concepts in evolutionary biology, findings in paleogenomics, and techniques used in the modern genomics era.

Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45-60 minutes
Audience Size:	20 or above
Speaker Availability:	November - December 2023
Equipment:	PowerPoint projector, microphone

Professor HUI Ho Lam Jerome (許浩霖) is the Professor of the School of Life Sciences, and Director of the Biology Programme at The Chinese University of Hong Kong. He received his doctoral degree at The University of Oxford, and his current main research interests include insect and arthropod biology, marine biotechnology, molecular ecology, conservation of biodiversity, zoonotic diseases, insect-plant interactions, and animal evolution.

A New Direction in Medicine: Gene and Stem Cell Therapy Technology
醫學新方向:基因與幹細胞治療技術

Professor KWAN Kin Ming
School of Life Sciences
The Chinese University of Hong Kong

Genes control many aspects of our life. Thus, when there is something wrong with our gene, usually it will result in some sort of disease condition. The advancement in molecular biology and genetic engineering allows scientists to manipulate genes in our body. On the other hand, stem cells are the cellular origin of many different tissues and organs. By studying the biology of stem cells and research on how to induce stem cells to become various cell types of different tissues, scientists are finding out new hope in medicine, which is using stem cells to offer the possibility of a renewable source of replacement cells and tissues. And by combining gene therapy and stem cell technology, scientists are also searching for new direction in medicine through manipulating genes and stem cells so as to offer the possibility of treating different diseases, conditions and disabilities such as Parkinson's and Alzheimer's diseases, diabetes, immunodeficiency, heart disease, and etc. A broad review and the current advancement of the gene and stem cell therapy will be discussed.

Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October 2023 – July 2024
Equipment:	PowerPoint projector, microphone

Professor KWAN Kin Ming (關健明) received his B.Sc. and Ph.D. degrees from The University of Hong Kong in 1990 and 1998 respectively. He then pursued his postdoctoral training in transgenic mouse technology and developmental biology at the University of Texas MD Anderson Cancer Center USA. He joined The Chinese University of Hong Kong in 2006 and he is now the Associate Dean (Education) of the Faculty of Science and Associate Professor in the School of Life Sciences. He awarded the Exemplary Teaching Award of CUHK in 2009 and 2013. His current research interest focuses on mouse genetics, developmental biology and organogenesis.

Looks Beneath the Surface: Discovering The Significance of Soil Biodiversity
探索表面之下：認識土壤生物多樣性的重要

Dr. LAW Man Suet Michelle
School of Life Sciences
The Chinese University of Hong Kong

The food that we consume every day is a production from our soils. The soils nurture different kinds of crops and provide us with a stable food supply as one of the ecosystem services. The entire soil ecosystem which is supported by a high diversity of soil organisms, including microbes, bacteria, nematodes, arthropods, and earthworms. In this talk, I will introduce the diversity of soil organisms and how soil biodiversity plays a significant role in maintaining human well-being and sustainability.

Presentation Mode:	Face to Face / Online
Language of Talk:	Cantonese
Suitable Level:	S.3 or above
Talk Duration:	40 mins
Audience Size:	20 - 80
Speaker Availability:	May – June 2024
Equipment:	PowerPoint projector, microphone

Dr. LAW Man Suet Michelle (羅文雪) is a Lecturer at School of Life Sciences, CUHK teaching Biology and Environmental Sciences. Michelle obtained her Bachelor's degree in Ecology and Biodiversity and MPhil degree in Social Science from The University of Hong Kong and subsequently her PhD degree in Geography and Resource Management at CUHK. Her research interests are soil ecology and ecosystem functioning, and environmental education. She is also ISA Certified Arborist and holder of Lantra Awards certificate (UK).

Life Science in Daily Life
日常生活中的生命科學

Prof. NGO Chi Ki Jacky
School of Life Sciences
The Chinese University of Hong Kong

Life science is the study of all living organisms and life processes at all levels from ecological to molecular. While many people refer life science as biology, it is an enormous field of study that also covers genetics, molecular biology, cell biology, biochemistry, food science, biotechnology, ecology, and more. The knowledge of life science teaches us to respect and love the nature and all life forms. It also plays a substantial role in human welfare and helps to create many of our daily needs ranging from food to medicine. In this talk, we will explore how the principles of life sciences are applied in everyday life.

Presentation Mode:	Face to Face
Language of Talk:	English / Cantonese
Suitable Level:	S.3 or above
Talk Duration:	50 minutes
Audience Size:	20 or above
Speaker Availability:	December 2023 to July 2024 (Afternoon only)
Equipment:	PowerPoint projector, microphone

Professor NGO Chi Ki Jacky (敖志祺) received his B.Sc., M.Sc., and Ph.D. degrees from the University of California San Diego in 2000, 2003, and 2006 respectively. He then pursued his postdoctoral training in the Division of Hemostasis and Thrombosis at the Beth Israel Deaconess Medical Center of Harvard Medical School. He joined The Chinese University of Hong Kong in 2009 and he is now an Associate Professor in the School of Life Sciences. His current research interest focuses on the structure-function studies of proteins and RNA that are important for cancer development and rare neurodegenerative diseases, and structure-based drug discovery against these diseases.

Structural Biology and Drug Discovery: How Basic Science Saves Lives
結構生物學和藥物研發：基礎科學如何挽救生命

Professor NGO Chi Ki Jacky
School of Life Sciences
The Chinese University of Hong Kong

Seeing is believing. To understand how biological macromolecules like RNA, proteins, etc. function and make life possible, scientists rely on a special field of research called structural biology to look at their 3D structures and study how they carry out their functions. However, due to their small sizes, it is no simple task to visualize the macromolecules at atomic detail. Structural biologists thus need to integrate the principles of molecular biology, biochemistry, and biophysics and rely on special techniques like X-ray crystallography, nuclear magnetic resonance (NMR) spectroscopy, and single-particle cryo-electron microscopy to visualize macromolecular structures. The knowledge on the structure-function relationships of different biological macromolecules helps scientists to understand how they interact and work together in our cells to keep us functional and healthy. Structural biology also serves as a powerful tool to understand the mechanisms of diseases and identify potential inhibitor-binding sites on disease-causing macromolecules. With this information, scientists can accelerate the process of drug discovery using a structure-guided approach. In this talk, we will discuss on the major and recent developments in structural biology and how the 3D structures of macromolecules play critical role in drug discovery for various diseases including COVID-19.

Presentation Mode:	Face to Face
Language of Talk:	English / Cantonese
Suitable Level:	S.5 or above
Talk Duration:	50 minutes
Audience Size:	20 or above
Speaker Availability:	December 2023 to July 2024 (Afternoon only)
Equipment:	PowerPoint projector, microphone

Professor NGO Chi Ki Jacky (敖志祺) received his B.Sc., M.Sc., and Ph.D. degrees from the University of California San Diego in 2000, 2003, and 2006 respectively. He then pursued his postdoctoral training in the Division of Hemostasis and Thrombosis at the Beth Israel Deaconess Medical Center of Harvard Medical School. He joined The Chinese University of Hong Kong in 2009 and he is now an Associate Professor in the School of Life Sciences. His current research interest focuses on the structure-function studies of proteins and RNA that are important for cancer development and rare neurodegenerative diseases, and structure-based drug discovery against these diseases.

The Evolution of Flight in Dinosaurs
恐龍展翅飛行的演化歷程

Prof. PITTMAN Michael David
School of Life Sciences
The Chinese University of Hong Kong

For over 150 years, birds, bats and pterosaurs were the only vertebrate animals known to use flapping flight. In this talk, Dr. Michael Pittman will share recent research by his team that shows why some bird-like feathered dinosaurs were also flapping flyers. Dr. Pittman will discuss what these new findings mean for our understanding of flight evolution during the age of dinosaurs.

在過去150年間，在脊椎動物中只有雀鳥、蝙蝠及翼龍被認為能夠使用撲翼方法飛行。在本之講座中，文嘉棋博士將會分享他的研究團隊的最新發現，解釋為何部份與鳥類相似並有羽毛的恐龍也有撲翼飛行的能力。文博士將會討論這些新發現能如何協助我們進一步了解在恐龍時代飛行能力的進化過程。

Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese / Mandarin
Suitable Level:	S.1 or above
Talk Duration:	40 minutes
Audience Size:	50 or above
Speaker Availability:	October 2023 – July 2024 (before 15:30)
Equipment:	PowerPoint projector, microphone

Prof. PITTMAN Michael David (文嘉棋) is an Assistant Professor in the School of Life Sciences at The Chinese University of Hong Kong. He earned a BSc in Geology, MSc in Geoscience (Palaeobiology) and PhD in Palaeobiology from University College London. His research interest in dinosaur palaeobiology covers anatomy, systematics, biomechanics, ecology and macroevolution. It is focused on the dinosaur to bird transition, including flight origins which also extends to other vertebrates. He is interested in exceptionally preserved fossils which he studies using multiple methods including laser-stimulated fluorescence. He is a Senior Fellow of the Higher Education Authority and the creator of the free online course Dinosaur Ecosystems.

文嘉棋博士是香港中文大學生命科學學院的助理教授。他在倫敦大學學院取得地質學學士、古生物學碩士及古生物學博士學位。他對於恐龍的研究興趣包括結構學、系統學、生物力學、生態學及宏觀進化。這些研究集於恐龍進化為鳥類中間的過渡時期，包括脊椎動物飛行的起源。他對於保存異常良好的化石最感興趣，並利用鐳射激光技術對這些化石進行分析。他是 Higher Education Authority (HEA) 的高級研究員及免費網上課程《恐龍的生

態系統》的創建人。

Ecology of Mangrove Crabs of HK and their Importance to the Ecosystem Functioning
香港紅樹林螃蟹生態及其對生態系統功能的重要性

Professor TSANG Ling Ming
School of Life Sciences
The Chinese University of Hong Kong

Hong Kong harbors rich marine biodiversity, with over 6,000 species recorded in spite of the relatively small area and short coastline. Amongst various marine ecosystem, mangrove forests are one of the most productive ecosystems globally and also represent a blue carbon source for potential mitigation of climate change. The healthy functioning of mangal habitats is tightly linked to the activities of mangrove crabs, predominantly those from one family, the Sesarmidae. These crabs consume mangrove leaves that are usually indigestible by most organisms and their burrow action will facilitate aeration of the anoxic sediment, and hence, are a major trophic link and a key nutrient recycler in the ecosystem. Over the years, my team has attempted to study the ecology and diversity of HK mangrove crab species in order to understand their ecology and to identify the biodiversity hotspot for future conservation management. In this talk, I will introduce basic knowledge on mangrove forest system, at the same time share some of the recent findings and fun fact on common HK mangrove crabs (e.g. soldier crabs, fiddler crabs and sesarmid crabs) with you. I hope this will allow you have a better idea on the threat faced by the mangrove forest system and convince you to engage into the effort for marine conservation sooner but not later.

Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese
Suitable Level:	S.1 or above
Talk Duration:	45-60 minutes
Audience Size:	20 or above
Speaker Availability:	April - June 2024
Equipment:	PowerPoint projector, microphone

Professor TSANG Ling Ming is an Assistant Professor in the School of Life Sciences, The Chinese University of Hong Kong. He received his B.Sc. degree in Biology from The Chinese University of Hong Kong and then further pursued his MPhil and Ph.D. degree in CUHK. His research interests are biodiversity, ecology and the evolution of marine invertebrates. He is particularly keen on identifying the factors that generate the species richness in different animal groups and distribution of biodiversity in different habitats and regions. He hopes this information can help scientists to design appropriate conservation strategies to strike a balance between development and environmental quality.

Appreciation of Euler's formula V-E+F=2
欣賞尤拉公式 V-E+F=2

Dr. CHAN Kai Leung
Department of Mathematics
The Chinese University of Hong Kong

Euler's formula V-E+F=2 is well known to secondary students as it is included in the junior secondary mathematics curriculum. However, to many students, it is nothing but only a counting exercise for finding the number of vertices, edges and faces of a convex polyhedron. If so, what is the significance of Euler's formula? In this talk, we will have a journey from graph theory to topology and appreciate the importance and beauty of Euler's formula.

Presentation Mode:	Face to Face / Online
Language of talk:	Cantonese
Suitable Level:	S.4 or above
Talk Duration:	60 minutes
Audience Size:	20 or above
Speaker Availability:	January - July 2024
Equipment:	PowerPoint projector, microphone

Dr. CHAN Kai Leung (陳啟良) obtained his B.Sc., MPhil and PhD degree from the Chinese University of Hong Kong (CUHK). His research interest includes symplectic geometry, toric geometry, mirror symmetry and SYZ mirror symmetry conjecture.

Dr. Chan is currently serving as a Lecturer in the Department of Mathematics at the Chinese University of Hong Kong. He is the course advisor of Mathematics and Maths Plus of the Diploma Yi Jin. He is also one of the lecturers for the Enrichment Programme for Young Mathematics Talents (EPYMT) organized by the Department of Mathematics.

Primes, Number Theory and Algebra
質數、數論與代數

Dr. Charles C. C. LI
Department of Mathematics
The Chinese University of Hong Kong

Prime numbers are those numbers divisible by one and itself only. They are the 'atoms' of numbers. The study of primes has been one of the important human intellectual pursuits since Euclid. Despite the simple looking definition of primes, the primes are shrouded with a lot of mysteries, especially because the primes are miraculously connected to the nature. Some of the mysteries are:

1) How do the primes help in the searching of extra-terrestrials?
2) Why do some cicadas emerge above ground every 13 or 17 years?
3) How are primes used in sending secret information over the internet?
4) Why are they related to a notorious Intel Pentium processor bug that triggered the company to recall all the processors?
5) How prime can be used to create an algebraic structure like real numbers which has addition, multiplication and division?
6) What is modular arithmetic? How it leads to an algebraic structure called "Group"? How this new algebraic structure is related to cryptography?

In this talk, we will discuss theory of primes, its roles number theory and application to algebra.

Presentation Mode:	Face to Face / Online
Language of talk:	Cantonese
Suitable Level:	S.1 or above
Talk Duration:	60 mins
Audience Size:	20 or above
Speaker Availability:	January - July 2024 (Afternoon only)
Equipment:	PowerPoint with projector, microphone

Dr. LI Chun Che Charles (李俊捷) obtained his B.Sc. from The Chinese University of Hong Kong (CUHK) and Ph.D. degree from the University of California at Los Angeles (UCLA). He held research positions at UCLA and Academia Sinica, Taiwan before joining The Chinese University of Hong Kong in 2007. His current research interest includes number theory, automorphic forms and representation theory.

Geometry and Medical Imaging
幾何與醫學圖像

Professor LUI Lok Ming Ronald
Department of Mathematics
The Chinese University of Hong Kong

Geometry is a crucial topic in mathematics, with numerous practical applications in a variety of fields. In recent years, it has gained significant attention due to its success in various applications, including medical image analysis, image processing, and computer graphics. In the medical field, geometry has proven to be a powerful tool for neuroscientists who need to locate structural differences between healthy and unhealthy brain structures. By accurately locating shape abnormalities and systematically analyzing complex anatomical structures, geometry can help detect systematic patterns of alterations in brain diseases. For example, using geometric analysis, tools for disease diagnosis, such as Alzheimer's disease, can be developed. Deep learning techniques have also shown great success in learning information from data. When combined with geometry, these techniques can provide even more accurate medical image analysis results. In this talk, I will provide an overview of the recent advances in computational geometry and its applications in the medical field. Additionally, I will explore how geometry can be combined with the latest advancements in deep learning to further enhance medical image analysis results.

Presentation Mode:	Face to Face / Online
Language of Talk:	English / Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	50
Speaker Availability:	May 2024
Equipment:	PowerPoint projector, microphone

Ronald Lok Ming Lui is a Professor in the Mathematics Department of The Chinese University of Hong Kong (CUHK). He is also serving as the Executive Director of the Center for Mathematical Artificial Intelligence (CMAI), under Department of Mathematics and Institute of Mathematical Sciences at CUHK. Ronald got his PhD in Applied Mathematics at UCLA Math department in June, 2008, under the supervision of Prof. Tony F. Chan. Before joining CUHK, he worked as a Postdoctoral Scholar for 2 years at Harvard Mathematics Department, hosted by Prof. Shing-Tung Yau. The main focus of Ronald's research has been on computational quasi-conformal geometry and their applications to medical imaging, computer vision and computer graphics. The main goal is to develop mathematical theories, models and algorithms to effectively study geometric structures, using quasi-conformal Teichmuller theory as a tool. Over the years, Ronald has been developing computational algorithms for quasiconformal geometry, understanding their theoretical aspects and applying

them to real-world applications, including medical imaging, computer visions and 3D geometry processing. He was awarded the Morningside Mathematics (Silver) Medal during the International Congress of Chinese Mathematicians in 2016. In 2018, he was awarded the HKMS Young Scholars Award by the Hong Kong Mathematical Society. In 2019, he was awarded the Vice-Chancellor's Exemplary Teaching Award.

Mathematics of the unknown and the unknowable

Prof. MCBREEN Michael
Department of Mathematics
The Chinese University of Hong Kong

We like to think of mathematics as the art of knowing things exactly. But just as often, mathematics is about what we cannot know – about coming to terms with the limits of knowledge. I'll tell the story of a few surprising such unknowns, starting in ancient Greece and ending in our present day. Along the way we will explore hyperbolic space, follow the centuries-long quest to find solutions to polynomial equations, and learn what it means to say a problem is insoluble or undecidable.

Presentation Mode:	Face to Face / Online
Language of talk:	English
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October – November 2023, February - April 2024 (Monday – Wednesday, Morning only)
Equipment:	PowerPoint with projector, microphone

Professor Michael MCBREEN studied Mathematics as an undergraduate at McGill University, and obtained his Ph.D. from Princeton University. His work lies in the field of representation theory and mathematical physics. Professor Mcbreen is an Assistant Professor of Department of Mathematics at The Chinese University of Hong Kong.

Snakes & Ladders Board Game
康樂棋

Dr. Wong Chak Fu Jeff
Department of Mathematics
The Chinese University of Hong Kong

Everyone plays the Snakes (downwards) & Ladders (upwards) board game at least once with family, friends and classmates. The joy of the game is to roll a fair die and move that number of squares up the board until we reach the 100th square and the game is won. In this talk, we study the game mathematically using simple steps and calculations and using basic theory on Markov chain. After this talk, when you next play this game where you land on the numbered boxes, you will know your chances of winning.

Understanding the content of this talk only requires understanding simple algebra calculations. To know more about my latest and past popular science talks, please visit the link:

https://www.math.cuhk.edu.hk/~jwong/pst.html

每個人都至少與家人、朋友和同學玩一次蛇（向下）和梯子（向上）(康樂棋)棋盤遊戲。遊戲的樂趣在於公平的擲出骰子，並在棋盤上移動相應數量的方格，直到到達第 100 個方格，遊戲就獲勝。在本次演講中，我們將使用簡單的步驟和計算以及馬爾可夫鏈的基本理論從數學的角度研究博弈。經過這次演講之後，當你下次玩這個遊戲時，每當你落在編號的盒子上，你就會知道你獲勝的幾率。

理解本講座的內容只需要具備基本的代數計算知識。如需了解有關我最近和過去的科普講座的更多信息，請訪問以下鏈接：

https://www.math.cuhk.edu.hk/~jwong/pst.html

Language of Talk:	Cantonese and English
Suitable Level:	S.3 to S.6
Talk Duration:	40-50 minutes
Audience Size:	20-100
Speaker Availability:	• Morning or Afternoon, every Monday and Friday, September 2023 - December, 2023 • Every Friday, January 2024 - April, 2024 • Morning or Afternoon, May 2024 - June, 2024
Equipment:	Computer & Projector (pdf)

Dr. Jeff C. F. Wong (黃澤富) holds a B.Sc. in Mathematics and a M.Sc. in Geodesy from the University of New Brunswick in Canada and Ph.D. degree in Mathematics from the Chinese University of Hong Kong. His research interests include: Artificial Intelligence, Educational Data Mining, Machine Learning and Quantitative Social Network Analysis. He is currently a Senior Lecturer in the Department of Mathematics at the Chinese University of Hong Kong.

Knowing the Binomial Theorem through basic/concrete/practical/graphical/programming examples
通過基本/具體/實用/圖形/編程示例了解二項式定理

Dr. Wong Chak Fu Jeff
Department of Mathematics
The Chinese University of Hong Kong

Yep! The algebraic expansion of binomial powers is described by the binomial theorem, which uses Pascal's triangles to calculate coefficients. In this talk, we not only introduce the concept of the binomial theorem using the basic, concrete, practical, graphical and programming examples, but also discuss how it can be used in machine learning, most notably in the modelling of binary and multi-class classification problems.

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https://www.math.cuhk.edu.hk/~jwong/pst.html

是的！二項式冪的代數展開式由二項式定理描述，該定理使用 Pascal 三角形來計算係數。在本次演講中，我們不僅將使用基本、具體、實用、圖形和編程示例來介紹二項式定理的概念，還討論如何將其用於機器學習，尤其是二元和多類分類問題的建模。

理解本講座的內容只需要具備基本的代數計算知識。如需了解有關我最近和過去的科普講座的更多信息，請訪問以下鏈接：

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Solving the most elegant quadratic equation
求解最優雅的二次方程

Dr. Wong Chak Fu Jeff
Department of Mathematics
The Chinese University of Hong Kong

How many ways are there of solving quadratic equations? You immediately think of the following:

- factorising, then setting each factor equal to 0
- completing the square
- quadratic formula
- graphing

In this talk, we discuss other ways to solve quadratic equations using simple steps that will surprise you. Please bring your pen and paper and try these new methods during the event.

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https://www.math.cuhk.edu.hk/~jwong/pst.html

解二次方程有多少種方法？你會立即想到以下內容：

- 因式分解，然後將每個因數設置為 0
- 完成正方形
- 二次公式
- 繪圖

在本次演講中，我們將討論使用簡單步驟求解二次方程的其他方法，這會讓您大吃一驚。請帶上你的筆和紙，在活動期間嘗試這些新方法。

理解本講座的內容只需要具備基本的代數計算知識。如需了解有關我最近和過去的科普講座的更多信息，請訪問以下鏈接：

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Language of Talk:	Cantonese and English
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Talk Duration:	40-50 minutes
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The magic of e and log
e 和 log 的魔力

Dr. Wong Chak Fu Jeff
Department of Mathematics
The Chinese University of Hong Kong

Applications of exponential and logarithmic functions are widely found in our daily lives. Examples are:

Estimating the spread of COVID-19 infection by immunologists
Analyzing the effect of inflation on home prices by potential home purchasers
Using the Richter scale to compare earthquakes of different strengths by residents of earthquake-prone areas
Using the decibel scale to compare sounds of different volumes by musicians and people who are interested in the effect of sounds on their ears
Monitoring the decay of radioactive material used in various diagnostic tests and internal imaging procedures by Medical technicians

In this talk, we discuss how to use/understand these functions to solve real-life problems and scenarios.

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https://www.math.cuhk.edu.hk/~jwong/pst.html

指數函數和對數函數的應用在我們的日常生活中廣泛存在。例子有：

- 免疫學家估計 COVID-19 感染的傳播
- 潛在購房者分析通貨膨脹對房價的影響
- 使用里氏震級比較地震多發區居民不同強度的地震
- 使用分貝標度來比較音樂家和對聲音對耳朵的影響感興趣的人不同音量的聲音
- 監測醫療技術人員在各種診斷測試和內部成像程序中使用的放射性物質的衰變

在本次演講中，我們將討論如何理解這些場景和使用這些函數來解決現實生活中的問題。

理解本講座的內容只需要具備基本的代數計算知識。如需了解有關我最近和過去的科普講座的更多信息，請訪問以下鏈接：

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All you need is "Computational Literacy"!
新時代你需要配備的是"計算素養"!

Dr. Wong Chak Fu Jeff
Department of Mathematics
The Chinese University of Hong Kong

In today's world, computational literacy is an indispensable tool in every field of study that uses computers and computational technologies to solve real-life problems and scenarios. Using the mathematical thinking processes, we introduce the idea of computational literacy based on a four-step process: define the questions, reduce them to computational form, compute answers using computing software, and interpret the results. Numerous examples and interactive sites will be mentioned and discussed on in this talk.

Understanding the content of this talk only requires understanding simple algebra calculations. To know more about my latest and past popular science talks, please visit the link:

https://www.math.cuhk.edu.hk/~jwong/pst.html

在當今世界，計算素養是使用電腦和計算技術解決現實生活中的問題和場景。是各個研究領域不可或缺的工具。利用數學思維，我們引入了基於四步過程的計算素養的概念:定義問題，將其簡化為計算形式，使用計算軟體計算答案，並解釋結果。本演講中也會介紹和討論許多生動例子和互動網站。

理解本講座的內容只需要具備基本的代數計算知識。要了解有關我最近和過去的科普講座的更多信息，請訪問以下鏈接：

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Language of Talk:	Cantonese and English
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The Swan Song of Star
星之挽歌

Dr. LEUNG Po Kin
Department of Physics
The Chinese University of Hong Kong

To us, the Sun seems to be always there shining upon the Earth, and will always be there in the future. We seldom think that the Sun or other stars have birth and death. Nevertheless, the death of some stars is one of the most spectacular phenomena in the universe, and the process is highly related to the existence of humans. Let us spend some time discussing the final fate of stars and how it is related to us.

對我們來說，太陽好像一直都在照耀着地球，而在遙遠的將來都會繼續存在。我們很少想到太陽和其他恆星都有出生和死亡。但原來一些恆星的死亡是宇宙其中一個最壯觀的現象，而且更和我們的存在息息相關。讓我們花些時間來討論恆星的結局和它與我們的關係。

Presentation Mode:	Face to Face
Language of Talk:	English / Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	January - May 2024 (Monday to Thursday only)
Equipment:	PowerPoint projector, microphone

Dr. LEUNG Po Kin got his Bachelor and Master's degrees from the Department of Physics at The Chinese University of Hong Kong, and his Ph.D. degree in Astronomy from University of Illinois at Urbana-Champaign. He joined University of California as researcher afterwards. Currently, Dr. Leung is a Senior Lecturer in the Department of Physics at The Chinese University of Hong Kong.

梁寶建博士畢業於香港中文大學物理系，其後在美國伊利諾伊大學香檳分校取得天文學哲學博士學位。隨後他曾在加州大學作研究員，現為香港中文大學物理系高級講師。

The Dark Side of the Universe
宇宙的陰暗面 - 暗物質和暗能量

Dr. LEUNG Po Kin
Department of Physics
The Chinese University of Hong Kong

Dark matter and dark energy appear in sci-fi movies and books from time to time. As the story goes, they often possess peculiar properties. Turns out they are real as far as we know, and the real universe is stranger than fiction. In this talk, we will learn about the natures of dark matter and dark energy, why we need them in our theories, and how they are essential to our very existence.

暗物質和暗能量經常在科學電影和書籍中出現。在故事中，它們往往擁有奇怪的突性。原來它們都真實存在，而且現實比虛構更離奇。在本次演講中，我們將了解暗物質和暗能量的本質，為什麼我們的科學理論需要考慮它們，以及它們對我們的存在有何重要性。

Presentation Mode:	Face to Face
Language of Talk:	Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	January - May 2024 (Monday to Thursday only)
Equipment:	PowerPoint projector, microphone

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Planet Hunter
行星獵人

Dr. LEUNG Po Kin
Department of Physics
The Chinese University of Hong Kong

The advance in astronomical observation has allowed us to discover more than 5000 exoplanets so far. Some of them are in the habitable zone, in which the temperature is moderate and liquid water can exist on the surface of a planet. In this talk, we will discuss the findings and the implications.

隨着天文觀測的發展，迄今我們已發現超過 5000 顆系外行星。其中一些更位於溫度適中的適居帶，以致液態水有可能存在於行星表面。在是次講座中，我們將會討論這些研究結果及其意義。

Presentation Mode:	Face to Face
Language of Talk:	Cantonese
Suitable Level:	S.1 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	January - May 2024 (Monday to Thursday only)
Equipment:	PowerPoint projector, microphone

Dr. LEUNG Po Kin got his Bachelor and Master's degrees from the Department of Physics at The Chinese University of Hong Kong, and his Ph.D. degree in Astronomy from University of Illinois at Urbana-Champaign. He joined University of California as researcher afterwards. Currently, Dr. Leung is a Senior Lecturer in the Department of Physics at The Chinese University of Hong Kong.

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The Unseen Universe
看不見的宇宙

Dr. LIN Lap Ming
Department of Physics
The Chinese University of Hong Kong

從遠古至近代，人類很長時間都只是依靠雙眼來觀察天空，探究宇宙的奧秘。時至今天，我們知道肉眼可看見的光只是電磁輻射寬闊頻譜中的一小部分，而且宇宙中很多有趣的天文現象都不能靠可見光來觀察和研究。我們正處於科學技術突飛猛進的時代，天文學家在過去幾十年間運用不同儀器來觀察宇宙的不同電磁輻射波段訊號，給人類探索看不見的宇宙。在這講座中，我們將通過天文學家在紅外到亞毫米光譜範圍天文學的研究，來淺談我們對宇宙的認識和最新發展。

Presentation Mode:	Face to Face / Online
Language of Talk:	Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October - December 2023 and March - July 2024
Equipment:	PowerPoint projector, microphone

練立明博士畢業於香港中文大學物理系，其後在美國聖路易斯華盛頓大學取得物理學哲學博士學位。畢業後，他在巴黎天文台擔任研究員，現為香港中文大學物理系高級講師。其研究興趣包括理論天文物理及廣義相對論。

Gravitational Wave Astronomy
重力波天文學

Dr. LIN Lap Ming
Department of Physics
The Chinese University of Hong Kong

愛因斯坦在 1915 年發表廣義相對論來取代牛頓的引力理論，使我們對引力現象有全新的認識，亦有不可思議的預測，例如黑洞和重力波的存在。在一百年後的 2015 年科學家首次探測到由兩個黑洞合併所產生的重力波更是科學史上的重要里程碑。這講座旨在淺談重力波的特性與及科學家如何嘗試捕捉不同天文現象釋放的重力波來了解這個宇宙。

Presentation Mode:	Face to Face / Online
Language of Talk:	Cantonese
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October - December 2023 and March - July 2024
Equipment:	PowerPoint projector, microphone

練立明博士畢業於香港中文大學物理系，其後在美國聖路易斯華盛頓大學取得物理學哲學博士學位。畢業後，他在巴黎天文台擔任研究員，現為香港中文大學物理系高級講師。其研究興趣包括理論天文物理及廣義相對論。

Discovering the World of Biomolecules with a Computational Microscope
以電腦模擬探索生物分子的世界

Professor WANG Yi
Department of Physics
The Chinese University of Hong Kong

Scientists routinely utilize microscopes to explore the world of biomolecules, because the sizes of proteins, nucleic acids and other biomolecules are typically on the nanometer scale. Nowadays, we can also use computers to model and simulate these biomolecules, and the advance in GPU technology, initially designed for computer games, has made it widely applicable in scientific computing. Let us get a taste of how the advance in computer hardware and software has helped scientists to explore the world of biomolecules.

科學家經常使用顯微鏡來探索生物分子的世界。這是因為諸如蛋白質、核酸之類的生物分子的大小通常僅為數個納米。 不過，今天我們亦可以使用電腦來模擬這些生物分子的結構和功能。近年來 GPU 技術的進步更使得為電子遊戲而研發的新一代顯卡也可被使用在科學計算中。讓我們一起來了解一下這些計算機軟硬件的進步是如何幫助科學家探索生物分子的世界。

Presentation Mode:	Face to Face / Online
Language of Talk:	English
Suitable Level:	S.1 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October 2023 – April 2024 (Weekdays except morning of Tuesday and Thursday)
Equipment:	PowerPoint projector, microphone

Dr. Yi Wang graduated from Zhejiang University and subsequently obtained her PhD degree in Biophysics and Computational Biology from the University of Illinois, Urbana-Champaign. She subsequently worked as a postdoc at University of California, San Diego and is now an associate professor at CUHK.

王一博士畢業於浙江大學，其後在美國伊利諾伊大學香檳分校取得生物物理學博士學位。隨後她曾在加州大學作博士后研究員，現為香港中文大學物理系副教授。

From Big Data to Smart Data
大數據的智能演繹

Professor CHAN Kin Wai
Department of Statistics
The Chinese University of Hong Kong

Everyone can do data analysis in this era of data-driven society. However, not everyone can extract the correct science from data. In this talk, we will present some simple, yet not trivial, rules that guide us to convert big data to "smart data". We will also discuss the curses and blessings of computer-intensive big data analysis. Topics covered in this talk include differential privacy, missing data handling and Markov chain Monte Carlo.

Presentation Mode:	Face to face / Online
Language of Talk:	Cantonese supplemented with English
Suitable Level:	S.4 or above
Talk Duration:	60 minutes
Audience Size:	20 or above
Speaker Availability:	February – July 2024
Equipment:	PowerPoint projector, microphone

Professor CHAN Kin Wai (陳健威) is an Assistant Professor in the Department of Statistics, The Chinese University of Hong Kong. He received his B.Sc. degree in Risk Management Science from The Chinese University of Hong Kong and Ph.D. degree in Statistics from Harvard University. His research interest is statistical inference for dependent data and incomplete data. He is particularly keen on developing elegant statistical theories and creating new methodologies that strike a nice balance between statistical and computational properties.

Application of Statistics in Business
統計在商業之應用

Dr. HO Kwok Wah
Department of Statistics
The Chinese University of Hong Kong

In this era of big data, statistical knowledge is becoming more and more important for companies in different industries. In this talk, I am going to explain two applications of statistics in business. The first one is about how basic statistical theories help insurance companies to determine the premiums of their insurance products. The second one is about how banks can use statistical methods to assess the qualities of potential borrowers so as to make better lending decisions.

Presentation Mode:	Face to Face
Language of Talk:	Cantonese
Suitable Level:	S.5 or above
Talk Duration:	30-45 minutes
Audience Size:	20-50
Speaker Availability:	October 2023 – July 2024
Equipment:	PowerPoint projector, microphone

Dr. HO Kwok Wah (何國華) holds B.B.A., B.Sc., M.Phil. and Ph.D. degrees from The Hong Kong University of Science and Technology. Dr. Ho is currently a Lecturer in the Department of Statistics at The Chinese University of Hong Kong. His research interests cover MCMC algorithms, Bayesian statistics, financial time series and credit risk models.

You May Also Like … (this talk) - How Can Recommender Systems Read Your Mind?
你或許還會喜歡 …（這講座）– 推薦系統如何猜出你的心思?

Professor SIT Tony
Department of Statistics
The Chinese University of Hong Kong

How does YouTube know what video you might want to watch next? How does Amazon pick a book title for you? Do you feel sometimes that these e-commerce platforms know you better than anyone else? Is it magic? In fact, machine-learning-based recommendation models are oftentimes developed to determine how similar individual items are to other things you like and then serve up specific recommendations. In this talk, we shall discuss different paradigms of recommender systems. We shall also investigate further how they work, describe their theoretical foundation, and discuss their strengths and weaknesses.

Presentation Mode:	Face to Face / Online
Language of Talk:	English
Suitable Level:	S.4 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	April – May 2024 (Afternoon only)
Equipment:	PowerPoint projector, microphone

Professor SIT Tony is an Associate Professor in the Department of Statistics, The Chinese University of Hong Kong. His research interests include censored quantile regression, stochastic processes, and statistical finance. Recently, he is also interested in network modelling and climate risk management.

How to Win at Monopoly
富翁攻略

Dr. WRIGHT John Alexander
Department of Statistics
The Chinese University of Hong Kong

Depending on how you play it, Monopoly can be a pleasant way to while away the hours with friends or a lesson in cut-throat capitalism as you force your opponents into bankruptcy. Either way, a beautiful mathematical object called a Markov Chain can help you win. In this talk, we will see how these chains appear in countless areas of daily life, from search engines to soccer, from finance to board games and how Statistics can help us use them to our advantage.

大富翁是一個老少咸宜的遊戲，你既可以享受與友同樂的悠閒輕鬆，亦可以體會把對手催逼至破產的緊張刺激。無論那種方式，美麗的馬科夫鏈可以幫助你輕鬆贏得遊戲。在這次講座中，我們將了解到這些鏈是如何存在於日常生活中，從搜索引擎到足球、從金融到棋牌遊戲……以及統計數據如何幫助我們利用馬科夫鏈來發揮優勢。

Presentation Mode:	Face to Face / Online
Language of Talk:	English
Suitable Level:	S.1 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October 2023 - July 2024
Equipment:	PowerPoint projector, microphone

Dr. John Alexander WRIGHT (衛約翰) is a Senior Lecturer in the Department of Statistics, The Chinese University of Hong Kong. He received his B.A. in Mathematical Sciences from The University of Oxford, his M.A.St. from The University of Cambridge and his Ph.D. in Mathematics from The University of Hong Kong. His research interests lie in applied probability, especially financial mathematics. With nearly a decade of teaching under his belt, as well as several public outreach events for STEM subjects, he is an experienced educator who is keen to promote statistics to a wider audience.

Are You Rational?
理智與方程

Dr. WRIGHT John Alexander
Department of Statistics
The Chinese University of Hong Kong

Can we model how people make every-day decisions? Well, we have been trying since the 1700s and the research continues today. In this interactive lecture, we will test the rationality of your decision making and see how the surprising results matter to technologies like AI and Machine Learning.

人類能模擬日常生活的決策嗎？用數學來模擬人們如何做出理性決策的研究最早可追溯到1700年，時至今天人們仍然繼續這項研究。在這個互動講座中，我們將看到這些想法如何應用於科技中，例如人工智能和機器學習。在講座的尾聲，你會知道你在做抉擇時的理性程度。

Presentation Mode:	Face to Face / Online
Language of Talk:	English
Suitable Level:	S.1 or above
Talk Duration:	45 minutes
Audience Size:	20 or above
Speaker Availability:	October 2023 - July 2024
Equipment:	PowerPoint projector, microphone

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How to Find Your Mr/Mrs Right
眾裏尋他/她千百度

Dr. WRIGHT John Alexander
Department of Statistics
The Chinese University of Hong Kong

Your perfect match is out there somewhere – how to find them? As ever, maths and statistics hold the key. In this interactive talk, we will discover how machine learning, Nobel prize winners and secretaries can improve Cupid's aim. We guarantee you will leave with a better chance of finding "The One"!

你的最佳伴侶就在世界的某個角落－如何找到他們呢？一如既往，數學和統計學掌握着問題的關鍵。在這個互動演講中，我們會探索機器學習、諾貝爾獎獲得者以及秘書是怎樣提高愛神之箭的命中率。我們保證，在你離開的時候會更有把握尋找到那個獨一無二的人！

Presentation Mode:	Face to Face / Online
Language of Talk:	English
Suitable Level:	S.1 or above
Talk Duration:	45 minutes
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