



香港中文大學理學院
FACULTY OF SCIENCE, THE CHINESE UNIVERSITY OF HONG KONG

第四屆 柳愛華紀念科學講座

The 4th Lau Oi Wah Memorial Science Lecture Series



香港中文大學理學院

FACULTY OF SCIENCE, THE CHINESE UNIVERSITY OF HONG KONG

<http://www.cuhk.edu.hk/sci/memorialtalk>

8-11-2008

由理學院及柳愛華紀念基金主辦
Organised by Faculty of Science & Lau Oi Wah Memorial Fund



香港中文大學理學院 Faculty of Science, The Chinese University of Hong Kong

柳愛華紀念科學講座

Lau Oi Wah Memorial Science Lecture Series

香港中文大學



柳愛華紀念科學講座

Lau Oi Wah Memorial Science Lecture Series

學生飯堂
Canteen



第四屆柳愛華紀念科學講座

The 4th Lau Oi Wah Memorial Science Lecture Series

日期 : 2008年11月8日 (星期六)
Date : 8 November 2008 (Saturday)

時間 : 上午9時30分至下午1時正
Time : 9:30am - 1:00pm

地點 : 香港中文大學邵逸夫堂
Venue : Sir Run Run Shaw Hall, The Chinese University of Hong Kong



講座程序表 Lecture Series Schedule

Time 時間	Programme 節目	Speaker 講者
09:30 - 09:45	Registration 進場及登記	
09:45 - 10:00	Opening Ceremony 開幕禮	
10:00 - 10:40	Talk 1 : The applications of DNA fingerprinting 講座1 : 神探阿「模」 - DNA指模印技術之應用	Professor CHAN Ho Yin Edwin 陳浩然教授
10:40 - 11:20	Talk 2 : The mystery of anti-cancer Chinese medicinal herbs 講座2 : 神奇的抗癌中藥	Professor LEUNG Wing Nang Albert 梁榮能教授
11:20 - 11:40	Break (to be confirmed) 小休 (待 定)	
11:40 - 12:20	Talk 3 : Melamine milk 講座3 : 三聚氰胺奶	Professor CHAN Kin Shing 陳建成教授
12:20 - 13:00	Talk 4 : Antimatter 講座4 : 反物質	Professor CHU Ming Chung 朱明中教授



反物質

Antimatter

Professor CHU Ming Chung
Department of Physics, The Chinese University of Hong Kong

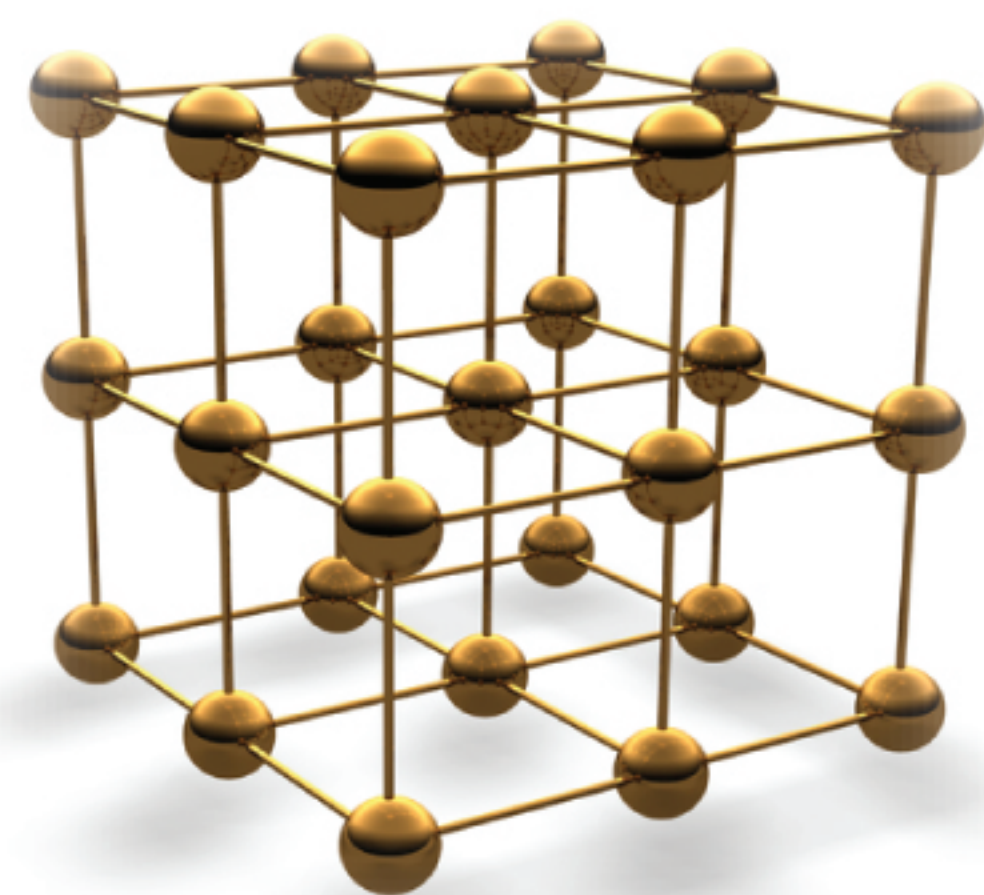
ABSTRACT 摘要

Antimatter has been a subject of fascination to the general public. In particular, the possibility that matter and anti-matter could annihilate with each other turning into pure energy captures much imagination. What really are anti-matter? Why do they exist? Why are particles and anti-particles so similar, and yet so different? Other than giving a brief review of the theory and the history of discovery of anti-particles, the speaker will also discuss recent developments in research related to anti-particles.

反物質(Antimatter)向來是科幻小說的熱門題材。物質與反物質可能相互湮滅變成為能量更引起莫大好奇與興趣。究竟甚麼是反物質？為甚麼會有反物質？為甚麼粒子與反粒子，是這麼相似、又那樣不同？除了介紹反粒子的理論及發現的歷史，講者亦會討論近年關於反粒子研究的一些新發展。



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SPEAKER'S BIOGRAPHY 講者簡介

Professor CHU Ming Chung (朱明中) obtained his B.Sc. and PhD degrees in Physics both at the California Institute of Technology (Caltech). He held research positions at MIT and Caltech before joining the Chinese University of Hong Kong in 1995. His current research interest includes astrophysics, cosmology, and particle physics.

朱明中教授於美國加州理工學院獲得物理學理學士及博士學位。1995年加入香港中文大學之前，受聘於麻省理工及加州理工學院從事研究工作。他現在的研究興趣以天體物理、宇宙論、及粒子物理為主。

反物質

Antimatter



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活動花絮 Highlights



鳴謝 Acknowledgement

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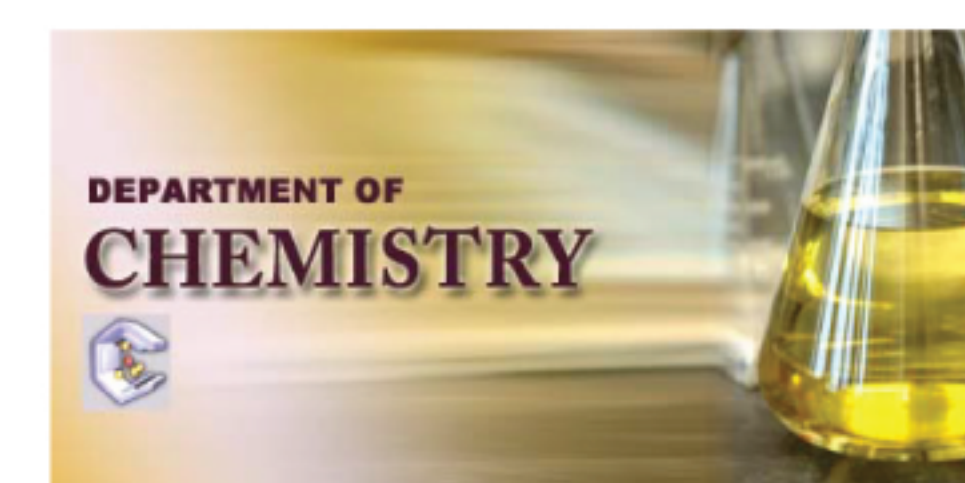
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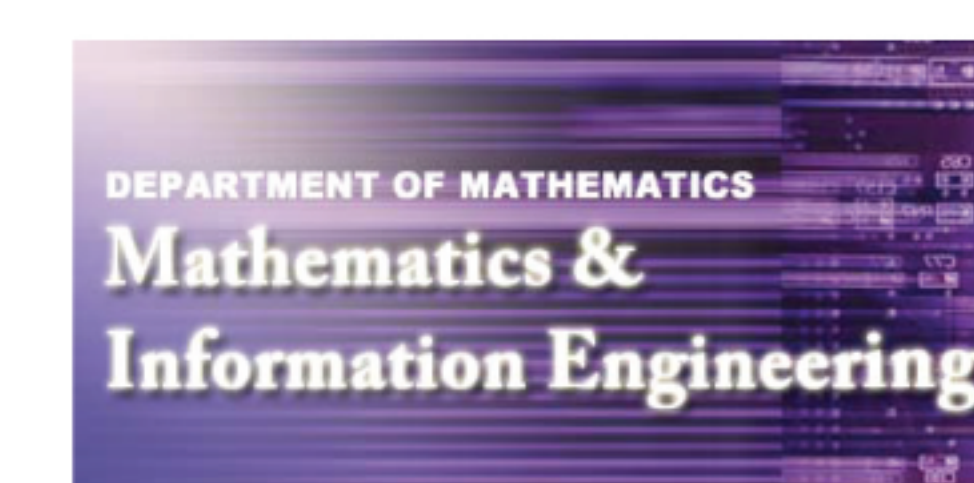
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關海山教授
Professor Kwan Hoi Shan

理學院院長的話

Message from Dean of Science

Prof. O.W. Lau

Dr. Lau, as I have always called her since my undergraduate's time in the 70's, is a giant figure in my mind. She was a small person with great personality. She was one of the most dedicated people I have ever known, dedicated to whatever tasks placed upon her. Her greatest contribution, of course, was her service as the dean of the Faculty of Science, CUHK. She took up the deanship of science in 1994 and served 3 consecutive terms for 9 years until her retirement in 2003. During her deanship, she showed extraordinary dedication, passion and courage in handling the affairs of the Faculty. She contributed greatly to the faculty. Science Centre, the home base of the Science Faculty, changed from a run-down old building into its superb condition we appreciate today. The introduction of multidisciplinary programmes extended the arms of science from pure science into the community and has since produced generations of scientists in new areas. She established many measures to promote science education in the universities and high schools. These are but a few examples of the extensive contribution Dr. Lau made during her deanship.



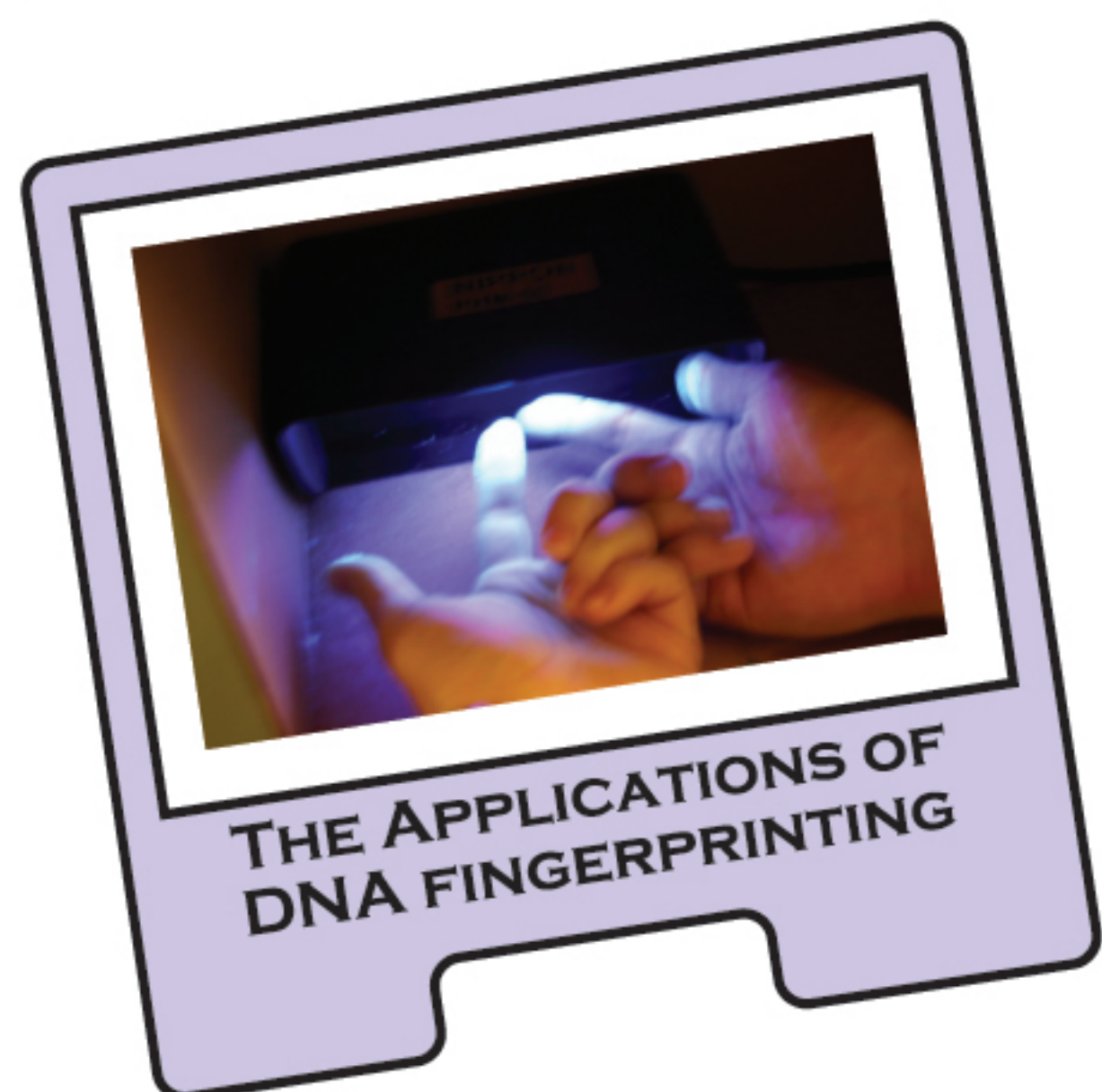
香港中文大學理學院 Faculty of Science, The Chinese University of Hong Kong



I knew her well personally. She taught me Analytical Chemistry when I was an undergraduate student and guided me through many stages of my career, as postgraduate student working on chemical analysis of mushroom compost to a teaching career in Biology and Food Science. She never failed to enlighten me and demanded me to perform. Her kindness, her admirable personality, and her care about students and staff members alike, remains a source of inspiration for many of us dedicating to science education. Dr. Lau, you will always be a giant figure in my mind. I miss you.

The Lau Oi Wah Memorial Science Lecture Series is the educational activities in science that Dr. Lau loved. The rich programme in the series would please her. The induction of passion in the high school students towards science is certainly a legacy of Dr. Lau. Organisers of the series, I salute you. The series has been a great success and I am certain this tradition will carry on for many years.

Kwan Hoi Shan
Dean of Science



神探阿「模」 - DNA指模印技術之應用

The applications of DNA fingerprinting

Professor CHAN Ho Yin Edwin
Department of Biochemistry and Molecular Biotechnology Programme
The Chinese University of Hong Kong

ABSTRACT 摘要

Do you know the origin of your chromosomes? Chromosomes exist in pairs; one of them comes from your father while the other one comes from your mother. Chromosomes are mainly made up of DNA and their content varies between individuals. "Polymorphism" is the term used to describe DNA difference in chromosomes. DNA fingerprinting is a technique that makes use of DNA variations to identify individuals.

你知道染色體的由來嗎？其實人類每一對的染色體均是遺傳自父母的，而每一個人體內的染色體均由DNA組成，每人的DNA亦是獨一無二的(同卵雙生兒除外)。不過，每個人的DNA組成卻有一定的相似性，舉例來說，阿甲與阿乙之間的DNA排序有百分之九十九點五相似，而剩下的百分之零點五則是有分別；這就是遺傳學上的「多態性」(Polymorphism)。DNA指模鑑定便是藉不同DNA樣本之間某些特定部位的多態性來分別不同人士。



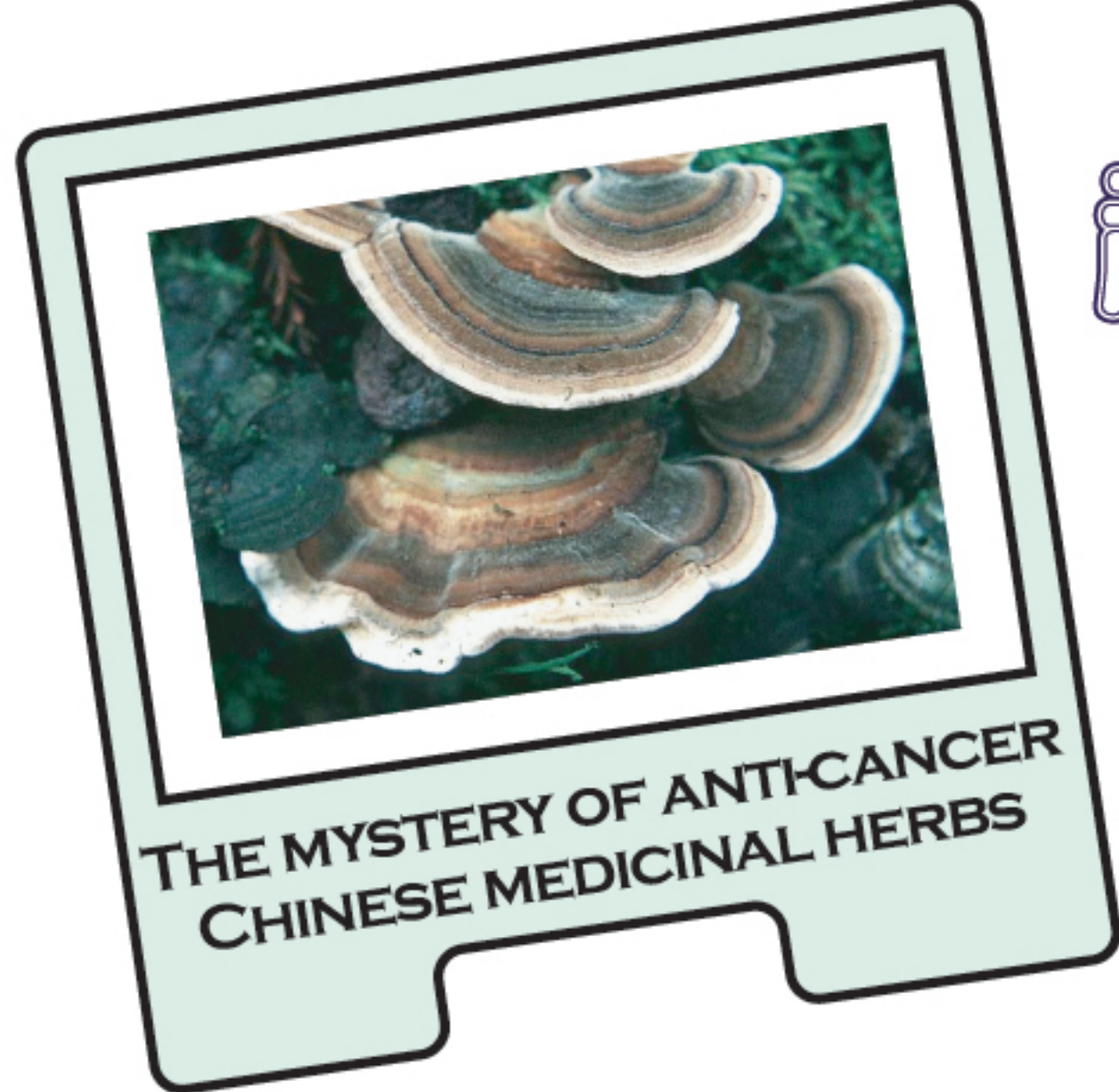
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SPEAKER'S BIOGRAPHY 講者簡介

Dr. CHAN Ho Yin Edwin (陳浩然) is Associate Professor at the Biochemistry department of The Chinese University of Hong Kong. He is also affiliated to the Molecular Biotechnology Programme. He received his B.Sc. degree in Biochemistry from The Chinese University of Hong Kong and his Ph.D. degree in Genetics from the University of Cambridge (UK). He did postdoctoral research studies at the University of Pennsylvania (USA) and the University of Cambridge (UK). His research opens up new directions for the treatment of Parkinson's Disease. Prof. Chan is the recipient of a number of awards including the prestigious Human Frontier Science Program Long-term Fellowship and the Wellcome International Traveling Research Fellowship. His main research interest is on the modeling of human degenerative brain disease including Parkinson's and Alzheimer's Diseases.

陳浩然博士，現任香港中文大學生物化學系副教授，並教授分子生物技術學課程。他擁有香港中文大學生物化學系學士學位，以及英國劍橋大學遺傳學哲學博士學位。陳教授曾於美國賓夕法尼亞州大學及英國劍橋大學從事研究工作。他的研究成果，為治療帕金森症提供了新的發展方向。陳教授曾獲得 Human Frontier Science Program Long-term Fellowship 及 The Wellcome International Traveling Research Fellowship等多個獎項。他的主要研究範疇包括帕金森症及老年癡呆症。



神奇的抗癌中藥

The mystery of anti-cancer Chinese medicinal herbs

Professor LEUNG Wing Nang Albert
School of Chinese Medicine, The Chinese University of Hong Kong

ABSTRACT 摘要

Chinese medicine has a long history. The Chinese Medicinal herbs used in the prevention and treatment of cancers are unique and mysterious. This lecture will discuss the scientific basis of the actions of the herbs from both the traditional and modern viewpoints.

中醫學源遠流長，蘊含著中華民族數千年的經驗和智慧。中藥防癌抗癌更有其獨到之處。美國的國立癌症研究所(NIH)曾對多種中藥進行抗癌試驗，結果發現對多種癌細胞均有明顯抑制作用，講者會從傳統中醫和現代科學的角度介紹近年抗癌中藥研究的一些新發展。



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SPEAKER'S BIOGRAPHY 講者簡介

Professor LEUNG Wing Nang Albert (梁榮能) graduated from the Department of Biochemistry, CUHK. He received his Ph.D. in Medical Biochemistry at Monash University, Australia. He then pursued his postdoctoral training in Switzerland and the U.S. before returning to work in Hong Kong. He is now a Registered Chinese Medicine Practitioner, Vice-President of the Hong Kong Association for Integration of Chinese-Western Medicine and the Associate Director of the School of Chinese Medicine, CUHK.

梁榮能教授畢業於香港中文大學生物化學系，並於澳洲蒙納殊大學取得生化醫學博士。在回港工作之前，他分別在瑞士及美國繼續其博士後訓練。梁教授多年來進行中藥抗癌的藥理研究工作，現為註冊中醫師。他現任香港中西醫結合學會副會長及中文大學中醫學院副院長。

神奇的抗癌中藥

The mystery of anti-cancer Chinese medicinal herbs



三聚氰胺奶

Melamine milk

Professor CHAN Kin Shing
Department of Chemistry, The Chinese University of Hong Kong

ABSTRACT 摘要

Melamine-tainted milk and dairy products have recently attracted much interest and concerns both locally and globally. In this talk, the underlying scientific reasons of adding melamine into milk, the cause of renal failure and the methods of detection of melamine will be presented. This serves as a case to illustrate how basic scientific principles can be applied both in the understanding and prevention of illegal food additives.

近日本地和全球社會皆非常關注乳製品受「三聚氰胺」污染的事件。我們將探討添加「三聚氰胺」於牛奶內的科學誘因、食用這種添加劑後導致腎衰竭的成因和三聚氰胺的檢驗方法，藉此闡明如何應用科學以了解及防止使用這些不合規定的食物添加劑。



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SPEAKER'S BIOGRAPHY 講者簡介

Professor CHAN Kin Shing (陳建成) graduated from the University of Hong Kong. He received the PhD degree in organic chemistry at The University of Chicago. He then pursued his postdoctoral training in mechanistic organometallic chemistry at The University of Chicago. He was an Associate Professor at the National Taiwan University before he joined The Chinese University of Hong Kong in 1990 as a lecturer in the Department of Chemistry and now is a Professor. His research interest focuses on carbon-carbon and carbon-hydrogen bond activation as well as green chemistry.

陳建成教授畢業於香港大學，並於芝加哥大學獲得有機化學之研究博士學位。其後他於芝加哥大學繼續有關機械學的有機金屬化學之博士後訓練。在任教香港中文大學之前，陳教授在國立台灣大學擔任副教授。及後於1990年加入香港中文大學化學系擔任講師一職，現任化學系教授。他的研究興趣以碳碳鍵之活化、碳氫鍵之活化及綠色化學為主。