

2010 王光燦生物有機化學講座發表會

2010 K.T. Wang Bio-organic Chemistry Lectureship

Oct 14-15 2010



學術講座

Prof. Raymond Dwek
University of Oxford, UK



產業講座

Dr. Michael Chang 張念慈博士
Optimer Pharmaceuticals, INC.

主辦單位：財團法人王光燦生物有機化學教育基金會

王光燦院士及王光燦生物有機化學教育基金會介紹

王光燦院士，1929 年出生於台灣台北市。1952 年台灣大學化學系畢業，1962 年獲日本東北大學博士學位。

1966 年是一個物資缺乏的年代，他用老師家中一件舊的尼龍襯衫，發明了聚醯胺 (polyamide) 薄膜色層分析 (TLC)，此技術被廣泛應用於天然物的分離與鑑定，尤其應用於蛋白質胺基酸定序，該論文被引用超過千次，被稱譽為「窮人的薄膜層析法」。1969 年他加入美國加州大學李卓皓教授的研究室，從事蛋白質化學合成研究工作。1972 年加入中央研究院生化所擔任研究員，1978 年完成全世界首次固相全合成台灣眼鏡蛇心臟毒蛋白。在 1980 年至 1986 年期間，他擔任中央研究院生化所所長，積極推動國內生物化學的學術研究。他更應用酵素進行有機化合物不對稱合成反應，發明以微波爐加速肽水解及合成反應的方法。於近半世紀之教學研究生涯中，王院士治學態度嚴謹，研究專注執著，作育英才無數；至今王院士於國內外著名學術期刊發表論文超過兩百篇，並且獲得行政院傑出研究科技榮譽獎、國科會研究傑出獎、侯金堆文教基金會傑出榮譽獎、台美基金會科技工程獎等多項榮譽及獎章，更於 1994 年當選中央研究院院士。

為了促進台灣生物有機化學的蓬勃發展，並能繼續推展台灣有機化學的研究，中央研究院李遠哲院士、翁啟惠院士等人共同發起，於 2000 年 10 月 18 日成立「財團法人台北市王光燦生物有機化學教育基金會」(The K-T Wang Bioorganic Chemistry Foundation)，每年頒獎給一位對生物有機化學有重大貢獻的國際知名學者，並邀請他到國內演講、與產學座談提供研究心得及建議，以促進國內生物有機化學的發展。

From polyamide thin layer chromatography in the sixties, solid phase synthesis of snake venom proteins in the seventies, to application of microwave on chemical reaction in the eighties, Dr. Kung-Tsung Wang's substantial achievements greatly influence the whole Bioorganic Chemistry community.

On October 19, 1999, Dr. Wang, who was 70 years old, gave a moving speech in his honorable retirement ceremony planned by all the attendees, good friends and students of his, who were at the scene to pay him respect. In order to honor Dr. Wang and carry over the mission to nourish the Bioorganic Chemistry Research in Taiwan, a group of the Taiwanese scientists including Dr. Y.T. Lee and Dr. C.H. Wong organized and helped the founding of "K-T Wang Bioorganic Chemistry Educational Foundation" in October 2000.

The K-T Wang foundation enables more students and young scholars to have the opportunity to meet with world-renowned scientists face-to-face. Once a year the foundation awards a world-famous scholar to give talks on his/her research experiences. The purpose is to inspire the youth in this field and thus speed up the progress of Bioorganic Chemistry research in Taiwan.

2010 年王光燦生物有機化學學術講座得獎人

Professor Raymond A. Dwek



Raymond Allen Dwek (born 11 November 1941) studied Chemistry at Manchester University (1960-64), before completing his D. Phil in magnetic resonance in Oxford (1964-1966). Subsequently, he was one of the pioneers of using magnetic resonance in Biology, as part of the Oxford Enzyme Group.

In 1969, he joined the Biochemistry Department, and under the influence of Rodney Porter pioneered the application of magnetic resonance to antibody molecules. His work then focussed on the structural and functional roles of the attached sugars and this led to the new field of Glycobiology. This is defined as “the branch of science concerned with the role of sugars in biological processes”. The word Glycobiology entered the Oxford English Dictionary in 1992, with a reference to Raymond Dwek.

In 1991, Dwek’s founded the Glycobiology Institute at Oxford University. This has been instrumental in establishing and developing the technology for analysing glycosylation, and roles for sugars attached to proteins. From this, he and his colleagues have pioneered a successful drug for Gaucher’s disease, which has been in worldwide use for nearly 9 years. Currently, the antiviral group in the Institute is working with United Therapeutics Corp., to develop a general broad spectrum antiviral therapy based on the use of iminosugars. This could be transformative for antiviral therapy, as it is effective against most viruses including Hepatitis B & C, HIV, Dengue and Influenza.

In 1988, Prof Dwek founded Oxford GlycoSciences, Oxford University’s first-ever spin off company, to make available worldwide the technologies from his laboratory. The company eventually became a pharmaceutical company and was listed in London and New York.

Prof Dwek is presently Director of the Glycobiology Institute at Oxford University. He was also Head of Department of Biochemistry (2000-2006). He is an Institute Professor at the Scripps Research Institute, La Jolla, an Emeritus Fellow at Exeter College and an Honorary Fellow at Lincoln College. Prof Dwek is currently a Director of United Therapeutics Corp (USA).

Prof Dwek has received several honours including the 7th Wellcome Trust Award for Research in Biochemistry related to Medicine (1994), the Hepatitis B Foundation leadership award USA (1997), the Romanian Order of Merit (2000) and the Huxley Medal (2007), the Kluge Chair of Technology and Society at the Library of Congress, USA (2007). He was President of the Institute of Biology, (London) from 2007-9.

Professor Dwek is also a Scientific Advisor to the President of the Ben Gurion University of the Negev in Israel, where he has been involved in helping to set up the National Institute for Biotechnology. He is a Fellow of the Royal Society, a Foreign Member of the American Philosophical Society, and an Hon Fellow of the Royal College of Physicians. He holds honorary doctorates from Katholieke Universiteit, Belgium (1996), Ben Gurion University, Israel (2002), The Scripps Research Institute, USA (2004) Cluj University, Romania (2006) and University College Dublin, Ireland (2010).

2010 年王光燦生物有機化學產業講座受邀學者

Dr. Michael N. Chang



Michael N. Chang graduated in 1972 from Fu Jen University, Chemistry Department. He got his Ph. D in Organic Synthesis from Brandeis University in 1978.

After a brief postdoctoral research at MIT, Michael joined Merck in 1979. After 10 years in drug discovery, in the field of cholesterol reduction, immune-regulation, he went on to head the discovery of Rhone-Poulenc Rorer (Aventis). He led his team to the discovery of three billion-dollar drugs - Lovanox, Textere and Sinercid. In 1995, he started his first company – Pharmanex – with Professor Carl Djerassi of Stanford University and created a successful line of dietary supplement with 2009 annual sales of 900 million dollars. This company was sold to Nu Skin Enterprise in 1998.

Dr. Chang is the co-founder of Optimer Pharmaceuticals, Inc., along with Professor Chi-Huey Wong and Professor Samuel Danishefsky. Before joining Optimer as CEO, Dr. Chang was the Senior Vice President of R & D, Pharmanex, Inc., and Chief Scientific Officer of Nu Skin Enterprises. He is now the chairman of Optimer Pharmaceuticals, Inc.

Dr. Chang holds 37 US patents and more than 60 peer-reviewed publications.

Glycobiology – Growing the Oxford Brand

Raymond A. Dwek
Glycobiology Institute/Anti-Viral Drug Discovery Unit
Dept of Biochemistry, University of Oxford.

The term Glycobiology, defined as “the branch of science concerned with biological processes of sugars” and the word entered the **Oxford English Dictionary** in 1992.

At Oxford, Glycobiology was pioneered with the help of the US company Monsanto, with a blue-skies grant of around \$50M in 1985 to develop the field. This was the first industrial grant that Oxford University had received in its 950 year history and the contract became the paradigm for future industrial grants with Oxford. The success of this partnership led to Monsanto (and Searle) building and funding the Glycobiology Institute in 1991. This is an interdisciplinary Institute and brings together scientists from very different backgrounds to address pressing medical problems.

One of the first spectacular results in Glycobiology was in rheumatoid arthritis, where the sugars on the antibody molecule were shown to change with the disease. The expectation was that a single sugar structure would be found associated with the antibody molecule! However, contrary to this expectation a population of 32 oligosaccharide structures, was associated with the antibody molecule. By evaluating over 1400 oligosaccharide sequences, it was revealed that in rheumatoid arthritis there was a ‘shift’ in this population. This important technical achievement prompted a reevaluation of the biological role of oligosaccharides. It was the first suggestion that glycoproteins generally exist in many glycosylated variants, or glycoforms, in which an ensemble of oligosaccharides is associated with each glycosylation site. Glycobiology was based on technological innovations which allow the reading of sugar sequences- the third biochemical alphabet.

However, by 1988, the technology for Glycobiology, that had been discovered was ready to be commercialised, so as to make it available to other scientists around the world. In yet another innovative step, the University of Oxford spun out a company Oxford GlycoSystems in which the University was a partner. This was the first time the University had held an equity position and again set the trend for future commercialisation of start-ups. The company grew to over 200 employees became known as Oxford GlycoSciences (OGS) reflecting its development into a pharmaceutical company when it was listed on the London Stock Exchange.

The medical interests in Glycobiology had a dramatic impact on the field and indicated the huge potential in discovering new drug targets for therapy in many diseases. In a sustained and major programme the Glycobiology Institute and OGS pioneered a new drug in the clinic for glycolipid storage disorders. The drug has worldwide approval, for Gaucher's disease and has been in the clinic for 9 years. Importantly, there also are now, new antiviral agents emerging from research at the Institute which promise to revolutionise antiviral therapy.

The funds flowing into the Institute from OGS and other sources allowed for a number of initiatives worldwide under the banner of "science as a force for peace and understanding" in which the standing of Oxford University as a neutral centre of excellence is important. Thus there were research and training programmes with The Romanian Institute of Biochemistry in Bucharest to help in its restructuring. The concept was extended to Ben Gurion University in Beersheba, Israel in helping to establish the National Institute for Biotechnology in the Negev, which has significant outreach to its neighbours.

Other initiatives involve the Irish government and The Scripps Research Institutes in La Jolla and Korea. The spin-out and formation of the Dublin-Oxford Glycobiology laboratory in Ireland has become a crucial technology part of their National Institute which serves the pharmaceutical industries there. At Oxford the success of OGS has allowed funds to help build the new Biochemistry department's flagship building and allowed the new focus of the Institute on antivirals with Oxford's new partner United Therapeutics which is developing these for the clinic.

The Glycan Shield of HIV – An Antiviral and Vaccine Target

Raymond A. Dwek
Glycobiology Institute/Anti-Viral Drug Discovery Unit
Dept of Biochemistry, University of Oxford.

Research in glycobiology has made major contributions to understanding concepts in protein folding, immunology and virology, laying the foundations for applying glycobiology to the development of novel strategies for antiviral therapeutics and vaccines – a new and exciting area.

Viruses are a major public health concern associated with considerable morbidity and mortality worldwide. Over two billion people, of which 350 million are chronically infected, have been or are infected with Hepatitis B virus (HBV); 200 million people are infected with Hepatitis C virus (HCV), and over 30 million are infected with HIV. Each of these viruses is dependent on their properly folded coat glycoproteins for their infectivity. Iminosugar drugs that disrupt the folding of these glycoproteins are being investigated as antiviral therapeutics in the Oxford Antiviral Drug Discovery Unit.

One such compound, the glucose analogue *N*-butyl-deoxynojirimycin (*NB*-DNJ), was pioneered by the Oxford Glycobiology Institute and has world-wide approval for use in treatment of glycolipid storage disorders. But *NB*-DNJ is also effective against most viruses which have enveloped glycoproteins, including HCV, HBV, and HIV. Methods to improve the targeted delivery of this drug using liposome encapsulation have been developed.

An interesting discovery is that liposomes, which target the Endoplasmic Reticulum, are themselves antiviral. They have been shown to work against HCV, HBV and HIV, providing an additional important approach to therapy for co-infected patients.

The ER liposomes are made up of polyunsaturated fatty acids, which activate sphingomyelinase, an enzyme in the plasma membrane, which then cleaves myelin, setting free the cholesterol bound to myelin. The released cholesterol leads to the down-regulation of cholesterol biosynthesis. The resulting viruses are incapacitated at various levels and to various degrees. Because the liposomes also target a host enzyme, the emergence of resistant viral escape mutants will be substantially lower compared to conventional antiviral treatments. Encapsulating an iminosugar as “cargo” in these liposomes provides enhanced treatment efficacy. The liposomes plus iminosugars as

cargo are being taken forward to clinical trials.

Knowledge of glycobiology is also being exploited in the design of a novel, antibody-based HIV vaccine. The envelope spike of the human immunodeficiency virus (HIV) is one of the most highly N-glycosylated structures found in nature *The glycan shield of HIV-1 is composed solely of immature oligomannose antigens.* Amazingly, this exclusively oligomannose (Man5-9GlcNAc2) profile is conserved across primary isolates and across geographically divergent clades, but it is not reflected in the current generation of gp120 antigens used for vaccine trials.

In the context of vaccine design, we also note that Man α 1 \rightarrow 2Man-terminating glycans (Man6-9GlcNAc2), of the type recognised by the broadly neutralising, anti-HIV antibody 2G12, are abundant on the native envelope and are also found on isolates not neutralised by 2G12. The Man α 1 \rightarrow 2Man residues of gp120 therefore provide a vaccine target that is physically larger and antigenically more conserved than the 2G12 epitope itself.

It is clear that Glycobiology is providing novel therapeutic approaches to viruses.

03:10 PM Oct 15 (Fri) 2010
Auditorium R103, Institute of Biological Chemistry, Academia Sinica
(中央研究院生化所103大禮堂)

Optimer Pharmaceuticals, INC. -----An Odyssey

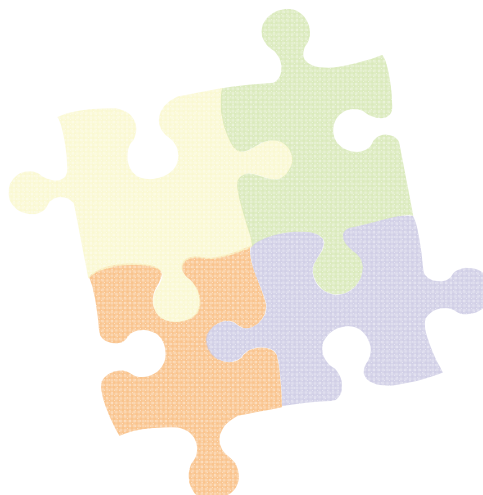
Michael N. Chang
Optimer Pharmaceuticals, INC.

Starting a biotech company is never easy and is becoming increasingly more difficult. Venture capitals and strategic/corporate partners are demanding more risk sharing, and moving more towards “later-stage” prospects. Optimer is a 10-year – old public biotech company. Through sharing the experience of Optimer on starting, fund raising, project selection, product development, IPO, and commercialization, we try to highlight some of the challenges, what it takes, the key elements for success, characteristics of entrepreneur, positioning, timing and other learning.



04:30 PM Oct 15 (Fri) 2010
Classroom R114, Institute of Biological Chemistry, Academia Sinica
(中央研究院生化所 114 教室)

Q and A session for students, assistants, postdocs



感謝

中央研究院生化所
中央研究院基因體中心
台灣大學化學系
國科會化學推動中心
國宜有限公司
三福化工股份有限公司
友和貿易股份有限公司
友德國際股份有限公司

俊懋企業股份有限公司
臺灣默克股份有限公司
科羅耐國際科技有限公司
三福環球投資股份有限公司
太景生物科技股份有限公司
生揚管理顧問股份有限公司
生達化學製藥股份有限公司



NOTE.....



王光燦生物有機化學講座發表會紀錄

第一屆王光燦生物有機化學講座發表會

暨生物有機化學小組研討會

時間	主持人	講員及講題
09:00-09:35	李光燦教授 (台大醫學院藥學系)	Development of Anti-Alkylarthritis Drugs Derived from Natural Products
09:35-10:10	廖小敏教授 (輔仁大學藥學系)	Mechanism Study of Cytotoxic Drugs Cultured Cancer Cells
10:10-10:30	.....	.....
10:30-10:45	陳博宏教授 (清大藥學系)	Structure-Activity Relationship of Phosphonate Esters by a Mechanism-Based Approach
11:05-12:00	王光燦教授 廖明輝教授	How Can We Move to the Frontiers in Biocatalysis?
12:00-12:30	.....	.....
第一屆王光燦生物有機化學講座發表會		
14:00-14:40	王光燦教授	Synthetic Chemistry and Function of Bacterial Cell Surface Glycopolymers
14:40-15:20	陳博宏教授	Phenol-Induced Surface-Engineered Cells: Constructing Silica-nanoparticle Self-Assemblies
15:20-15:40	.....	.....
15:40-15:50	陳博宏教授	Phenol-Induced Surface-Engineered Cells: Constructing Silica-nanoparticle Self-Assemblies
15:50-17:20	.....	.....
17:20-18:00	.....	.....

日期: September 28, 2001 (Friday)
地點: 台灣大學 藥學系 化學樓二樓國際會議廳
講者: 王光燦教授 (台大醫學院藥學系), 廖明輝教授 (台大醫學院藥學系), 陳博宏教授 (清大藥學系)
報名: 請填報名表寄至 hw@www.sinica.edu.tw

Prof. George M. Whitesides 在台演講

2003年王光燦生物有機化學講座發表會

Oct. 15	Polyvalency in Biochemistry and Drug Design 時間: 11:30 am 地點: 台大醫學院化學系演講廳 講者: George M. Whitesides (哈佛大學化學系) 時間: 1:30 pm 地點: 台大醫學院化學系演講廳
Oct. 16	Art and Science 時間: 10:30 am 地點: 台大醫學院化學系演講廳 講者: George M. Whitesides (哈佛大學材料系)
Oct. 17	Unconventional Nanofabrication 時間: 10:30 am 地點: 台大醫學院化學系演講廳 講者: George M. Whitesides (哈佛大學材料系) Soft Lithography and Technology Commercialization 時間: 1:30 pm 地點: 台大醫學院化學系演講廳
Oct. 18	Complexity and Emergence 時間: 10:30 am 地點: 台大醫學院化學系演講廳 講者: George M. Whitesides (哈佛大學材料系) Self-Assembly 時間: 1:30 pm 地點: 台大醫學院化學系演講廳
Oct. 19	Nanotechnology and Nanoscience 時間: 10:30 am 地點: 台大醫學院化學系演講廳 講者: George M. Whitesides (哈佛大學材料系)

主辦單位: 台大醫學院化學系 協辦單位: 台大醫學院材料系
協理單位: 台大醫學院生物系 協理單位: 台大醫學院藥學系
協理單位: 台大醫學院物理系 協理單位: 台大醫學院地質系
協理單位: 台大醫學院地化系 協理單位: 台大醫學院地生系
協理單位: 台大醫學院地環系 協理單位: 台大醫學院地資系

2003年王光燦生物有機化學講座發表會

New Understanding of Enzymes and Antibiotics for Drug Discovery

Prof. Christopher T. Walsh

- 哈佛醫學院教授
- 美國國家科學院院士
- 美國醫藥科學院院士
- 美國醫學院院士
- MPV基金會(全球最大生技產業發展公司)科學及醫學顧問
- 參與開發 Genzyme, Immunogen, Leucostat, Kosan, Versor 等生技公司
- 擔任多家生技公司董事 (Critical Therap, Transform Pharm, Kosan, Versor 等生技公司)

兩場演講 (主持人: 翁啟惠 院士)

Oct. 20 (Mon) Glucosyl Transferases in Antibiotic Maturation
時間: 3:00 pm 地點: 中央研究院生物化學研究所演講廳
Oct. 22 (Wed) Natural Products, Enzymatic Assembly Lines, Spotlight on Biosynthesis
時間: 3:00 pm 地點: 台大醫學院第二活動中心(B1)國際會議廳

主辦單位: 中央研究院生物化學研究所, 台大醫學院化學系, 台大醫學院藥學系
協理單位: 王惠鈞 林啟宏 聯絡電話: (02)27855696 ext.4110

2004 王光燦生物有機化學講座發表會

Molecular Diversity from Antibiotics to Materials

Prof. Peter Schultz

Scripps 研究所講座教授
Novartis 基因體研究所主任

美國國家科學院院士
美國國家醫學院院士
美國藝術與科學院院士

1994年諾貝爾化學獎 (Wolf Prize in Chemistry)
曾任多家著名生技公司 (包括 Affymax, Symyx Technologies, Syrex, Kalypso, Phenomix, Ambrisco)

兩場演講 (主持人: 翁啟惠 院士)

Nov. 04 (Thu) 3:00 pm 台大醫學院第二活動中心 (B1) 國際會議廳
"Molecular Diversity From Antibiotics to Materials"

Nov. 05 (Fri) 3:00 pm 中央研究院生物化學研究所演講廳
"An Expanding Genetic Code"

主辦單位: 中央研究院生物化學研究所
協理單位: 中央研究院生物化學研究所, 中央研究院生物化學研究所, 中央研究院生物化學研究所, 中央研究院生物化學研究所
聯絡人: 王惠鈞 林啟宏 聯絡電話: (02)27855696 ext.4110

2005 王光燦生物有機化學講座發表會

Short RNAs in Normal and Disease Processes

Prof. Phillip A. Sharp

The Salk Institute for Biological Research
Massachusetts Institute of Technology

諾貝爾生理醫學獎得主
美國國家科學院院士
美國醫藥科學院院士
美國藝術與科學院院士
多項知名科學、醫療、與投資機構顧問
(包括 Scripps, National Cancer Institute, Massachusetts General Hospital, etc)
創設多項著名生技公司
(包括 Biogen, Alnylam Pharmaceuticals, etc)

兩場演講

Nov. 16 (Wed) 15:30 台大醫學院第二活動中心 (B1) 國際會議廳
"Short RNAs in Normal and Disease Processes"
主持人: 翁啟惠 院士

Nov. 17 (Thu) 15:30 中央研究院生物化學研究所演講廳
"The Roles of RNA in Gene Regulation"
主持人: 王惠鈞 院士

主辦單位: 中央研究院生物化學研究所
協理單位: 中央研究院生物化學研究所, 中央研究院生物化學研究所, 中央研究院生物化學研究所
聯絡人: 王惠鈞 林啟宏 電話: (02)27855696 ext.4110

2006 王光燦生物有機化學講座發表會

New Discovery Tools for Biotechnology and Materials Science

Prof. Ki-Bum Sharpless

W. M. Keck Professor of Chemistry
The Scripps Research Institute

諾貝爾化學獎得主
美國國家科學院院士
美國藝術與科學院院士
伍爾夫獎得主
King Faisal 獎得主

兩場演講

Oct. 23 (Mon) 15:30 中央研究院生物化學研究所演講廳
"The Secret Life of Enzymes"
主持人: 王惠鈞 院士

Oct. 24 (Tue) 15:30 台灣大學第二活動中心 (B1) 國際會議廳
"New Discovery Tools for Biotechnology and Materials Science: Azides and Alkynes: Tigers in a Cage"
主持人: 翁啟惠 院士

主辦單位: 中央研究院生物化學研究所
協理單位: 中央研究院生物化學研究所, 中央研究院生物化學研究所, 中央研究院生物化學研究所
聯絡人: 王惠鈞 林啟宏 電話: (02)27855696 ext.4110

2007 王光燦生物有機化學講座發表會

David D. Ho, M.D.

Most of the Year, Time Magazine, 1999
Member, National of Medicine, National Academy of Sciences, 1997
Scientific Advisory Board, New York Academy of Medicine, 1998
Member, Academic Council, Institute of China, 1999
President of Chinese Medical Association, 2001
Fellowship Award, State Science and Technology Republic of China, 2001
Suzhou Rubber Award, Australia Society of Microbiology, 2003
Emerging Areas Award, Chemical Development, 2003
Lung and Black Hawk Award, New York City Medical Research, 2003
Fellow of Chinese Chemical Society, 2003
Fellow of Chinese National Academy of Sciences, 2003
Board member, the MIT Corporation, 2003-present

主持人: 翁啟惠 院長

主辦單位: 中央研究院生物化學研究所
協理單位: 中央研究院生物化學研究所, 中央研究院生物化學研究所, 中央研究院生物化學研究所
聯絡人: 王惠鈞 林啟宏 電話: (02)27855696 ext.4110

2008 王光燦生物有機化學講座發表會

2008 K.T. Wang Bio-organic Chemistry Lectureship

Prof. Richard A. Lerner

President of the Scripps Research Institute, USA
Member National Academy of Sciences, USA
2003 Paul Ehrlich and Ludwig Darmstadter Prize, Germany
1994/1995 The Wolf Prize in Chemistry

Prof. Paul L. Herrling

Head of Corporate Research, Novartis International AG
Chair of the Board of the Novartis Institute for Tropical Diseases

Oct 16 (Thu) 2008
International Conference Hall, Building for Humanities and Social Sciences, Academia Sinica
Moderator: President Chi-Huey Wang 翁啟惠 院長
02:00 PM Lecture by Prof. Richard A. Lerner
"Combinatorial Antibody Libraries"
04:00 PM Pipe (6.8) Music Concert by Wu Man 吳昊

Oct 17 (Fri) 2008
International Conference Hall, Building for Humanities and Social Sciences, Academia Sinica
Moderator: Vice President Andrew H.-J. Wang 王惠鈞 院長
09:00 AM Lecture by Prof. Richard A. Lerner
"Chemically Synthesized Antibodies"
10:00 AM Lecture by Prof. Paul L. Herrling
"Modern Drug Discovery for Neglected Diseases - Tuberculosis"
Free Entry 免費入場

主辦單位: 中央研究院生物化學研究所
協理單位: 中央研究院生物化學研究所, 中央研究院生物化學研究所, 中央研究院生物化學研究所
聯絡人: Dr. Chih-Hung Hsueh 林啟宏 (02)27855696 # 1165
Dr. Hui-Ming Yu 李惠鈞 (02)27855696 # 203

2009 王光燦生物有機化學講座發表會

2009 K.T. Wang Bio-organic Chemistry Lectureship

學術講座
Prof. Peter B. Derwan

加州理工大學講座教授 美國醫藥科學院院士
美國國家科學院院士 法國國家科學院院士

產業講座
Prof. Jacqueline K. Barton

加州理工大學講座教授 美國醫藥科學院院士
美國國家科學院院士

Nov 5 (Thu) 2009
Teh-Chue Chou Memorial Hall, Institute of Chemistry, Academia Sinica
中央研究院化學研究所大禮堂
10:30 AM Lecture given by Prof. Peter B. Derwan
"DNA-mediated Signaling"
3:30 PM Lecture given by Prof. Jacqueline K. Barton
"Targeting DNA Mismatches with Metal Complexes"

Nov 6 (Fri) 2009
International Conference Hall, Building for Humanities and Social Sciences, Academia Sinica
中央研究院大禮堂國際會議廳
Moderator: Vice President Andrew H.-J. Wang 王惠鈞 院長
2:00 PM Lecture given by Prof. Peter B. Derwan
"Transcription Factors as Targets for Cancer Therapy"
Free Entry 免費入場

主辦單位: 中央研究院生物化學研究所
協理單位: 中央研究院生物化學研究所, 中央研究院生物化學研究所, 中央研究院生物化學研究所
聯絡人: Dr. Hui-Ming Yu 李惠鈞 (02)27855696 # 2000
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