香港中文大學
院士講座系列

The 12th Lecture Series by Academicians from the Chinese Academy of Sciences (CAS)

Jointly Organized by
Department of Chemistry
Department of Biomedical Engineering
Office of Academic Links (China)

Speaker: **Prof. TAN Weihong**
Division of Chemistry
Chinese Academy of Sciences
中國科學院化學部譚蔚泓院士

Title: **The Foundation of Molecular Mecicine: A Chemical Biology Approach**

Date: Wednesday, 23 January 2019

Time: 16:30 – 18:15
Light refreshments will be served at 16:00

Venue: T.Y. Wong Hall LT

Registration: http://www.cuhk.edu.hk/oalc/cas_2019/

簡歷

分析化學和化學生物學專家。湖南大學教授。1960 年 5 月生於湖南省益陽市，籍貫湖南益陽。1982 年畢業於湖南師範大學，1985 年在中國科學院山西煤炭化學研究所獲碩士學位，1993 年在美國密西根大學獲博士學位。2015 當選為中國科學院院士。長期從事生物分析化學和化學生物學的研究和教學工作，解決了分析化學與生物醫學交叉領域中的一些關鍵科學問題，在國際生物分析化學領域有著重要的影響。他在核酸適體、分子識別、納米生物傳感等領域做了大量系統的原創性工作。提出核酸適體細胞篩選新方法，揭示其細胞識別的基本性質；提出多種高靈敏、高時空分辨納米生物傳感方法，對生物分析化學的發展做出重要貢獻。曾獲國家自然科學二等獎。

The Foundation of Molecular Mecicine: A Chemical Biology Approach

A full understanding of the molecular basis of diseases depends on the development of molecular probes able to recognize disease targets of interest. Until very recently, such tools have been absent from the clinical practice of medicine. The newest molecular probe, and one that holds most promise, is a new class of designer nucleic acids, termed aptamers, which are single-stranded DNA/RNA able to recognize specific targets, such as single proteins and even small molecules. Recently, we applied a simple, fast and reproducible cell-based aptamer selection strategy called Cell-SELEX which uses whole, intact cells as the target for aptamer selection. This selection process then generates multiple aptamers for the specific recognition of biological cells, but without the need for prior knowledge about the signature of target cell-surface molecules. The selected aptamers have dissociation constants in the nanomolar to picomolar range. Thus far, we have selected aptamer probes for many different diseases, and used them to carry out studies at the vanguard of biomedical science, including ultrasensitive detection of tumors, molecular imaging, targeted drug delivery, and, most critically, cancer biomarker discovery. Taken together, these molecular level tools form a solid scientific platform from which to pursue advanced studies in molecular medicine. We will report our most recent progress in this exciting research area, especially in molecular engineering, nanomedicine and molecular elucidation of cancer biomarkers and theranostics.

Language: Putonghua/English ALL ARE WELCOME **Enquiries:** 394-36344 / 38727