

# MINI-SYMPOSIUM ON BIOCATALYSIS: FROM GREEN SYNTHESIS TO BIOENERGY

MONG MAN WAI, BLDG., LECTURE THEATRE 1  
FRIDAY, APRIL 13, 2018  
10:00 AM – 6:00 PM

## BIOLOGICAL SYSTEMS FOR CHEMICAL SYNTHESIS

**JAMES BOWIE (UCLA)**

SYNTHETIC BIOCHEMISTRY: MAKING BIOFUELS AND  
COMMODITY CHEMICALS THE CELL-FREE WAY

**CAROL LIN (CITYU)**

TRANSFORMATION OF FOOD AND TEXTILE WASTE INTO  
VALUE-ADDED PRODUCTS BASED ON BIOCATALYSTS

**XIA JIANG (CUHK)**

MULTIPROTEIN NANO-ASSEMBLY INTEGRATES BIOSYNTHETIC PATHWAYS  
FOR EFFICIENT PRODUCTION OF BETA-CAROTENOIDS

## ENZYMES FOR BIOMOLECULAR TRANSFORMATIONS

**KUAKARUN KRUSONG (CHULALONGKORNU)**

LARGE-RING CYCLODEXTRIN SYNTHESIS BY AMYLOMALTASE

**ZHIHONG GUO (HKUST)**

A NEW MODE OF THIAMINE CATALYSIS IN VITAMIN K BIOSYNTHESIS

**STEVE SHENG-FA YU (ACADEMIA SINICA)**

HYDROXYLATION OF N-ALKANES BY RECOMBINANT ALKANE HYDROXYLASE  
(ALKB) AND RUBREDOXIN-2 (ALKG) FROM *PSEUDOMONAS PUTIDA* GPO1

## DEVELOPING CATALYSTS FOR BIOFUEL PRODUCTION

**BRADLEY HEATER (CUHK)**

GENETICALLY-ENCODED IMMOBILIZED ENZYMES FOR  
BIODIESEL PRODUCTION: A TALE OF TWO LIPASES

**JOSEPH KA-FU YUNG (POLYU)**

TRANSITION METAL-BASED CATALYST FOR GREEN BIODIESEL  
PRODUCTION FROM UNREFINED FEEDSTOCK

**SUNNEY I. CHAN (ACADEMIA SINICA)**

FROM THE ENZYMOLOGY OF METHANE OXIDATION TO THE DEVELOPMENT  
OF A CATALYST FOR SELECTIVE OXIDATION OF LIGHT ALKANES  
IN NATURAL GAS UNDER AMBIENT CONDITIONS



School of Life Sciences  
The Chinese University of Hong Kong

生命科學學院

## Mini-Symposium on Biocatalysis: from Green Synthesis to Bioenergy

Friday, April 13, 2018

Mong Man Wai Building, Lecture Theatre 1  
The Chinese University of Hong Kong

### Speakers and Lectures

**10:00 AM Michael Chan (CUHK)**

Introduction

### Biological Systems for Chemical Synthesis

**10:05 AM James Bowie (UCLA)**

Synthetic biochemistry: Making biofuels and commodity chemicals the cell-free way

**11:05 AM Carol Lin (CityU)**

Transformation of food and textile waste into value-added products based on biocatalysts

**11:40 AM Xia Jiang (CUHK)**

Multiprotein nano-assembly integrates biosynthetic pathways for efficient production of beta-carotenoids

**12:15 AM Lunch**

### Enzymes for Biomolecular Transformations

**1:45 PM Kuakarun Krusong (Thailand)**

Large-ring cyclodextrin synthesis by amyломaltase

**2:20 PM Zhihong Guo (HKUST)**

A new mode of thiamine catalysis in vitamin K biosynthesis

**2:55 PM Steve Sheng-Fa Yu (Academia Sinica)**

Hydroxylation of n-alkanes by recombinant alkane hydroxylase (AlkB) and rubredoxin-2 (AlkG) from *Pseudomonas putida* GPo1

**3:30 PM Coffee Break**

### Developing Catalysts for Biofuel Production

**3:50 PM Bradley Heater (CUHK)**

Genetically-encoded immobilized enzymes for biodiesel production: A tale of two lipases

**4:25 PM Joseph Ka-Fu Yung (PolyU)**

Transition metal-based catalyst for green biodiesel production from unrefined feedstock

**5:00 PM Sunney I. Chan (Academia Sinica)**

From the enzymology of methane oxidation to the development of a catalyst for selective oxidation of light alkanes in natural gas under ambient conditions