

China-US Dialogue on Emerging Science & Technology

The Genomics Revolution: New Tools for Combating Infectious Diseases

*Co-sponsored by the Chinese Ministry of Science and Technology
and the U.S. National Academies*

**March 29 – 31, 2006
Beijing, China**

Program



Tuesday, March 28, 2006

15:00-20:00 **Registration**
Lobby, Xiyuan Hotel

19:00 **Welcome Reception**
Venue: Panorama Grill Room, 25th floor, Xiyuan Hotel
Hosted by *Ma Linying, Deputy Director-General*
Department of International Cooperation, MOST

Wednesday, March 29, 2006

Venue: Yanletang, 1st floor, Xiyuan Hotel

8:00-9:00 **Registration**
In the foyer outside Yanletang, 1st floor

9:00-9:40 **Opening Ceremony**

9:00-9:10 **Welcome Remarks**
Shang Yong, Vice Minister of MOST

9:10-9:20 *George Atkinson*
Science and Technology Adviser to the Secretary of State,
U.S. Department of State

9:20-9:30 *Cheng Donghong, Executive Secretary, CAST*

9:30-9:40 David Sedney, Deputy Chief of Mission, *U.S. Embassy in Beijing*

- 9:40-10:00 **Keynote Lecture - China**
Professor Liu Depei, President of CAMS & Vice President of CAE
- 10:00-10:20 **Keynote Lecture – United States**
Paul Ahlquist, University of Wisconsin – Madison
- 10:20-10:30 **Tea Break**
- 10:30-12:20 **Panel I: Surveillance and Detection**
Moderator: Gao Fu, Institute of Microbiology, Chinese Academy of Sciences
- 10:35-10:55 **Practical Tools to Combat Infectious Diseases in the Developing World: A Model of Technology Transfer That Works**
Maria Elena Peñaranda, Sustainable Sciences Institute
- 10:55-11:15 **Microarray-based methods for detecting and tracing bacterial pathogens**
Yang Ruifu, Beijing Institute for Microbiology and Epidemiology
- 11:15-11:35 **Using a Microarray to Detect Viral Pathogens Associated with Human Disease**
Charles Chiu, University of California at San Francisco
- 11:35-11:55 **Laboratory-based subtype surveillance of infectious diseases**
Biao Kan, Institute of Infectious Disease Prevention and Control, Chinese CDC
- 11:55-12:20 **Q&A Panel Discussion**
- 12:20-13:20 **Lunch and Poster Session**
- 13:20-15:15 **Panel II: Predicting Pathogenesis and Adaptation to Humans**
Moderator: Ann Reid, U.S. National Academy of Sciences
- 13:25-13:45 **New insights into the interactions between hepatitis viruses with IFN using cDNA microarray: implications in identifying new tools for combating infectious diseases**
Yuan Zhenghong, Medical College of Fu-Dan University
- 13:45-14:05 **Genome Sequence Analysis as a Tool for Understanding and Controlling Infectious Diseases**
Eric Eisenstadt, The Institute for Genomic Research (TIGR)
- 14:05-14:25 **Genomics: A new tool for combating infectious disease**
*Yang Huanming, Institute of Genomics, Chinese Academy of Sciences**
- 14:25-14:45 **Environmental Influences on Emerging Pathogens, Development of a High-density Microarray to Measure Microbial Community Dynamics**
Gary Anderson, Lawrence Berkeley National Laboratory
- 14:45-15:15 **Q&A Panel Discussion**

- 15:35-17:30 **Panel III: Diagnostics – US and China Perspectives**
Moderator: Tang Hong, Institute of Biophysics, Chinese Academy of Sciences
- 15:40-16:00 **Surveying Gene Expression in Whole Blood: Host Response and Classification of Infection**
Stephen Popper, Stanford University School of Medicine
- 16:00-16:20 **The diagnostic reagent development in National Institute of Diagnostics and Vaccine Development (NIDVD) in infectious diseases**
Ng Wenhan, Xiamen University
- 16:20-16:40 **The Impact of Genomics on the Diagnosis of Infectious Diseases**
Patrick R Murray, National Institutes of Health
- 16:40-17:00 **Recent Outbreaks of Avian Influenza in Migratory Birds and Streptococcus Infection in China**
*Gao Fu, Institute of Microbiology, Chinese Academy of Sciences**
- 17:00-17:30 **Q&A Panel Discussion**
- 17:30–18:30 **Poster Sessions**
- 19:00 **Banquet hosted by Vice Minister Cheng Jinpei, MOST**

Thursday, March 30, 2006

Venue: Yanletang, 1st floor, Xiyuan Hotel

- 9:00-10:50 **Panel IV: Vaccine Development**
Moderator: Toni Marechaux, U.S. National Academy of Sciences
- 9:05-9:25 **Vaccines against Viral Diseases in China**
Li Dexin, China CDC
- 9:25-9:45 **Development of Sendai Virus-based Vaccines to Prevent Pediatric Respiratory Infectious Diseases**
Xiaoyan Zhan, St. Jude Children's Research Hospital
- 9:45-10:05 **Studies on HIV Preventive Vaccines in China**
Wang Youchun, National Institute for the Control of Pharmaceutical and Bio Products
- 10:05-10:25 **Influenza Pandemics: Their Origin and Control**
Arnold Monto, University of Michigan
- 10:25-10:50 **Q&A Panel Discussion**

- 10:50-11:05 **Tea Break**
- 11:05-13:00 **Panel V: Drug Discovery**
Moderator: Liu Keliang, Beijing Institute of Pharmaceutical & Toxicology
- 11:10-11:30 **454 Life Sciences Next Generation Sequencing Technology: Applications to Infectious Disease Research**
Bruce Taillon, 454 Life Sciences
- 11:30-11:50 **Current Situation of Medicine used for Infectious Disease in China**
Wang Junzhi, National Institute for the Control of Pharmaceutical and Bio Products
- 11:50-12:10 **Functional Genomics of Virus - Host Interactions**
Paul Ahlquist, University of Wisconsin – Madison
- 12:10-12:30 **Discovering anti-SARS compounds from the existing drugs**
Jiang Hualiang, Shanghai Institute of Materia Medica, CAS
- 12:30-13:00 **Q&A Panel Discussion**
- 13:00-14:00 **Lunch and Poster Session**
- 14:00-16:00 **Panel VI: Case Studies – Prevention and Treatment**
Moderator: Huntington F. Willard, US. GDEST Program Committee
- 14:05-14:25 **HBeAg Negative Hepatitis B, Mutation Genotype, Genotyping Relationship, and Outcome**
Wei Lai, Health Science Center, Peking University
- 14:25-14:45 **Genetic Architecture of Complex Infectious Diseases: Lessons from AIDS**
Steve O'Brien, National Cancer Institute
- 14:45-15:05 **Clinical outcomes and Immune reconstitution in advanced Chinese AIDS patients undergoing 12 months of highly active antiretroviral therapy**
Li Taisheng, Peking Union Hospital
- 15:05-15:25 **Avian Influenza: Preparing for and Responding to a Potential Human Pandemic**
Lance Gable, Center for Law and the Public's Health, Georgetown University
- 15:25-16:00 **Q&A Panel Discussion**
- 16:20-18:30 **Poster Sessions**
- 19:00 **Banquet hosted by the U.S. National Academies' GDEST Program**

Friday, March 31, 2006

Venue: Yanletang, 1st floor, Xiyuan Hotel

9:00-10:10 **Closing Ceremony**

9:00-9:05 **Welcome and Introduction**

Ma Linying, Deputy Director-General, MOST

9:05—9:30 **Workshop Joint Initiative**

– Program Summary and the Future of Genomics and Infectious Disease

Ann Reid, U.S. National Academy of Sciences

Gao Fu, Institute of Microbiology, Chinese Academy of Science

9:30-10:00 **Concluding Remarks**

Jin Xiaoming, Director-General

Department of International Cooperation, MOST

George Atkinson

Science and Technology Adviser to the Secretary of State,

U.S. Department of State

10:00 **Meeting Adjourned**

10:30-12:00 **Student Dialogue: Looking Toward the Future of the Genomics Revolution**

Moderator: Gu Jiang, School of Basic Medical Sciences, Peking University

10:30-10:50 **US Panelists**

Paul Ahlquist, University of Wisconsin – Madison

Eric Eisenstadt, The Institute for Genomic Research (TIGR)

Lance Gable, Center for Law and the Public's Health, Georgetown University

Stephen Popper, Stanford University School of Medicine

Bruce Taillon, 454 Life Sciences

Huntington F. Willard, U.S. GDEST Program Committee and

Duke University Medical School

10:50-11:40 **Chinese Student Panelists**

Lu Fengmin

Calcium and hepatoma: The X file

Zhang Yu

Regulation of lymphocyte development by TLR-mediated signals and its implication for infection-induced lymphopenia

Peng Yihong

The extracellular signal regulated kinase (ERK) in replication of human simplex herpesvirus (HSV)

Zhang Jun
Identification of a ZU5 and death domain-containing inhibitor of NF- κ B

Ye Juxiang
Molecular pathology of avian influenza and SARS

11:40-12:00 Q&A Panel Discussion

12:00-13:00 Lunch

13:30 Buses for lab visits depart from the hotel.

14:00-16:00 Lab Visits for U.S. Attendees

A.) Visit to National Institute for Viral Disease Control and Prevention, Chinese
Center for Disease Control and Prevention

B.) Visit to School of Basic Medical Sciences, Peking University