CHINA-JAPAN-US TUBERCULOSIS INTERNATIONAL SYMPOSIUM

"Past, Present and Future of Tuberculosis Research in China"

Xinya Jianguo Hotel, Zhengzhou, China

TUESDAY, SEPTEMBER 11

8:00 **REGISTRATION**

13:00 **OPENING CEREMONY** *(photographs of all participants)*

Greetings by Ministry of Health, China,

Henan Public Health Bureau, China Anti-TB Association and US Japan TB Leprosy Panel

SESSION 1

Co-chairs: Guolong Zhang; David N. McMurray

14:00 The Drug Resistance of *Mycobacterium tuberculosis* Complex in China

Hongjin Duanmu

Beijing Tuberculosis and Thoracic Tumor Research Institute, Beijing

14:30 Attaching Great Importance to Establishing Regimen of Retreated Pulmonary Tuberculosis

Xiao Heping

Shanghai Pulmonary Hospital, Shanghai

15:00 Latent Infection of *M. tuberculosis* in China

Wenhong Zhang

Department of Infectious Diseases, Huashan Hospital, Fudan University, Shanghai

15:30 TB/HIV Co-infection Prevention and Control in Henan----From Pilot Study to Project

Xu Ji-ying

Henan Center for Diseases Prevention and Control, Zhengzhou

16:00 **BREAK**

SESSION 2

Co-chairs: Hongjin Duanmu; Isamu Sugawara

16:30 Resuscitating Effect for Dormant Tubercle Bacilli by Recombinant Resuscitation Promoti ng Factor (Rpf) Proteins

Zongde Zhang

Beijing Tuberculosis and Thoracic Tumor Research Institute, Beijing

17:00 Molecular Mechanism of Drug Resistance and New Diagnostic Techniques for Tubercul osis

Xueqiong Wu

The Institute of Tuberculosis Research, The Second Affiliated Hospital, The General H ospital of PLA, Beijing

17:30 Improved Immunogenicity in Mice and Non-human Primates of a Chimeric DNA Vaccin e Encoding the ESAT-6 Inserted into the Ag85A Antigen Following Genetic Immunizati on with Electroporation

Zhongming Li

Vaccine Research Laboratory, Shanghai H&G Biotechnology Co. Inc., Shanghai

18:00 Combining a Whole Blood Interferon-γ Release Assay and Tuberculosis-specific Antibo dy Test for Diagnosis of Bacteriological Negative Active Tuberculosis.

Guolong Zhang

Department of Central Lab., Henan Chest Hospital, Zhengzhou

19:00 Welcome Party (Banquet Hall)

US-JAPAN COOPERATIVE MEDICAL SCIENCE PROGRAM

42nd Tuberculosis and Leprosy Research Conference

Xinya Jianguo Hotel, Zhengzhou, China

WEDNESDAY, SEPTEMBER 12

SESSION 1 MINI-SYMPOSIUM: TB DIAGNOSTICS; TB IN CHINA

Co-chairs: Antonino Catanzaro; Isamu Sugawara

9:00	Risk Assessment in Clinical Diagnosis of Tuberculosis **Antonino Catanzaro**
9:30	LAMP Method Utility in Diagnosis of TB **Yoshihiro Ota and Tetsu Hase**
10:00	Ultra-sensitive Integrated Sample Processing and Detection System for TB **David Alland**
10:30	**BREAK**
11:00	Progress of Tuberculosis Control in China **Wang Lixia**
11:30	Transmission of Drug Resistant Tuberculosis Among Treated Patients in Shanghai, China **Gao Qian**
12:00	**LUNCH**

SESSION 2 TB VACCINES

Co-chairs: Yasunobu Yoshikai; Samuel M. Behar

14:00 Animal Models of Tuberculosis: Applications in Pathogenesis, Vaccine and Drug Evaluation
David N. McMurray

14:25 Efficacy of Recombinant BCG Vaccine Secreting IL-15/Ag85B Fusion Protein on Protection Against *Mycobacterium tuberculosis*
Yasunobu Yoshikai

14:50 Immunological Correlates of Resistance and Susceptibility: Can Immunology Predict the Clinical Outcome of Vaccine Trials in Populations Susceptible to Tuberculosis
Samuel M. Behar

15:15 **BREAK**

15:45 Vaccines for Tuberculosis: Current Status
Ian Orme

16:10 Recombinant BCG Tokyo (Ag85A) Protects Cynomolgous Monkeys (*Macaca fascicularis*) Infected With H37Rv *Mycobacterium tuberculosis*
Isamu Sugawara

16:35 Evaluation of a Novel Vaccine (HVJ-liposome/HSP65 DNA + IL-12 DNA) Against Tuberculosis Using the Cynomolgous Monkey Model of TB
Masaji Okada

US-JAPAN COOPERATIVE MEDICAL SCIENCE PROGRAM

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THURSDAY, SEPTEMBER 13

SESSION 3 LEPROSY

Co-chairs: Linda B. Adams, Masamichi Goto

9:00 Genotypic Analysis of *Mycobacterium leprae* Isolates From Japan and Other Asian Countries Reveals a Global Transmission Pattern of Leprosy
Masanori Matsuoka

9:25 Updates In Leprosy Research
Linda B. Adams

9:50 Does Normal Looking Skin of Pure Neuritic Leprosy Reflect the Carrier Status of *Mycobacterium leprae*?
Masamichi Goto

10:15 Contribution of GM-CSF to the Enhancement of the T-cell Stimulating Activity of Macrophages
Masahiko Makino and Toru Mori

10:40 **POSTER SESSION**

12:00 **LUNCH**

14:00-17:00 ***TOUR OF HENAN CDC AND TB HOSPITAL***

US-JAPAN COOPERATIVE MEDICAL SCIENCE PROGRAM

42nd Tuberculosis and Leprosy Research Conference

Xinya Jianguo Hotel, Zhengzhou, China

FRIDAY, SEPTEMBER 14

SESSION 4 IMMUNOLOGY AND CELL BIOLOGY

Co-chairs: Masao Mitsuyama; Patrick Brennan

8:30 Enhancing Effect of Peptide-25 on the Induction of Functional Activation of CD8+ Cytotoxic T Lymphocytes
Toshiki Tamura

9:00 Lipocalin 2 Mediates Host Defense Against Mycobacterial Infection
Kiyoshi Takeda

9:25 Live *Mycobacterium tuberculosis* Blocks Phagosome-Lysosome Fusion by Dissociation of Late Endosomal Protein, Rab7, from Phagosome in Macrophages
Yukio Koide

9:50 **BREAK**

10:20 Comparison Between Biological Features of *Mycobacterium smegmatis* J15CS and *M. smegmatis* mc^2155
Hatsumi Taniguchi

10:45 Mycobacterial Mammalian Cell Entry Protein 1A (Mce1A)-mediated Adherence Enhances the Chemokine Production by A549 Alveolar Epithelial Cells
Masao Mitsuyama and Ikuo Kawamura

11:10 Hyaluronan Enhances the Growth of *Mycobacterium tuberculosis*
Sohkichi Matsumoto

11:35 Development of the *Mycobacterium tuberculosis* Cell Wall Biosynthetic Enzyme, 5-Phospho-α-D-ribose-1-diphosphate: Decaprenyl-phosphate 5-Phosphoribosyltransferase as a Drug Target: Effect of Antisense Oligodeoxyribonucleotides on Growth of *M. smegmatis* and Identification of Essential Amino Acids
Hairong Huang

12:00 **LUNCH**

SESSION 5 TB/HIV INTERACTIONS; TB DRUG DEVELOPMENT

Co-chairs: Gail Cassell; Masahiko Makino

14:00 Tuberculosis and HIV
Christopher Whalen

14:25 The CHC Model: Linking Tuberculosis and HIV/AIDS Clinical Care Using a Community Based Approach in Cambodia
Thim Sok

14:50 The Review of TB Trends in the Area Which Experienced HIV Epidemic in a Province of Northern Thailand (Preliminary Analysis)
Norio Yamada

15:15 US-Korea Collaborative Research on Tuberculosis
Sang-Nae Cho

15:40 **BREAK**

16:10 Identification of Novel Drug Targets to *Mycobacterium tuberculosis*
Honghai Wang

16:35 Current Issues on Chemotherapy of Tuberculosis and Related Drug Resistance
Jacques Grosset

17:00 Developing Novel TB Therapies: Progress and Plans
Ann Ginsberg

17:25 OPC-67683, A Promising New Drug for the Treatment of Tuberculosis
Lawrence Geiter

17:50 **CLOSING REMARKS: Isamu Sugawara**

19:00 **FAREWELL PARTY**

Meeting report: China-Japan-US Tuberculosis International Seminar and US-Japan Cooperative Medical Science Program 42nd Tuberculosis and Leprosy Research Conference, 2007

Isamu Sugawara[a] and David McMurray[b]
[a]The Research Institute of Tuberculosis, Kiyose, Tokyo, Japan
[b]College of Medicine, Texas A & M University System Health Science Center, College Station, TX, USA

The meeting was held at the Xinya Jianguo Hotel (Zhengzhou, Henan province, China) from September 11th through September 14th, 2007. Thirty-three Japanese, 24 American, 48 Chinese and delegates from three other countries participated during the four days. This meeting, which was supported by the National Institutes of Health (USA) and the US-Japan Cooperative Medical Science Program, focused on TB and leprosy research, and previously has been held alternately in the USA and Japan. This was the first time since the inception of the program in 1965 that the US-Japan Tuberculosis and Leprosy Panels had held its meeting in a third country. As there are many TB and AIDS patients in Henan province, the Henan Provincial Health Bureau was eager to hold this type of meeting in Zhengzhou, which is the provincial capital. The first day of the meeting consisted of the China-Japan-USA Tuberculosis International Seminar to provide American and Japanese TB researchers with information about the current TB situation in China. The meetings were sponsored by the China Anti-TB Association, China CDC, and Henan Provincial Anti-TB Association and co-sponsored by Henan CDC and Henan Chest Hospital.

I. China-Japan-US Tuberculosis International Seminar

As shown in Table 1, there were eight presentations by Chinese researchers. The presentations covered TB and HIV/TB epidemiology and basic research work. After listening to these talks, participants were able to grasp the current TB situationin China. The incidence of TB in China is currently estimated to be 327/100,000. The incidence of single drug resistance was reported to range from 15.5% to 44.8% in a study of eleven provinces. In that same study, the incidence of MDR-TB ranged from 3.5% to 16.1%.Repeated retreatment was apparently associated with the increased incidence of MDR-TB. Although the incidence of XDR-TB in China is

unknown, data on 1,931 sputum samples collected between 1998 and 2006 by the Beijing Tuberculosis and Thoracic Tumor Institute indicated that 35.6% of the samples grew XDR-TB. In another prospective study using an ELISPOT assay, the prevalence of latent tuberculosis among household contacts was estimated at about 50%, while the prevalence in HIV+ individuals was somewhat higher There are very many HIV/TB patients in China and the conference was intended to exchange information and experiences which would help Chinese health professionals reduce the incidence of TB and AIDS.

Table 1. Eight presentations at the seminar

1. The drug resistance of *Mycobacterium tuberculosis* complex in China (Dr. Duanmu Hongjin)
2. Attaching great importance to establishment of a regimen for retreated pulmonary tuberculosis (Dr. Xiao Heping)
3. Latent infection of *M. tuberculosis* in China (Dr. Zhang Wenhong)
4. TB/HIV co-infection prevention and control in Henan—from pilot study to project (Dr. Xu Jiying)
5. Resuscitating effect on dormant tubercle bacilli by recombinant resuscitation promoting factor (Rpf) proteins (Dr. Zhang Zongde)
6. Molecular mechanism of drug resistance and new diagnostic techniques for tuberculosis (Dr. Wu Xueqiong)
7. Improved immunogenicity in mice and non-human primates of a chimeric DNA vaccine encoding ESAT-6 inserted into the Ag85A antigen following genetic immunization by electroporation (Dr. Li Zhongming)
8. Combining a whole blood interferon- γ release assay and tuberculosis-specific antibody test for diagnosis of bacteriological negative active tuberculosis (Dr. Zhang Guolong)

II. 42nd Tuberculosis and Leprosy Research Conference

The conference consisted of three days of oral and poster presentations. There were 23 oral presentations in five sessions (TB in China, TB vaccines, leprosy, immunology and cell biology, and TB drug development). Dr. Sang-Nae Cho (Yonsei University, Seoul, Korea) outlined US-Korea collaborative research on tuberculosis. There were 25 poster presentations

(10 Japanese, 4 Chinese and 11 American).

The first session was a mini-symposium on TB diagnostics chaired by Drs. Antonio Catanzaro and Isamu Sugawara. Dr. Catanzaro reviewed an algorithm composed of the Clinical Suspicion of Tuberculosis (CSTB) assessment based upon a risk factor analysis followed by smear microscopy and culture for the diagnosis of TB d. Dr. Yoshinori Ota described the loop-mediated isothermal amplification (LAMP) method for diagnosis of *M. tuberculosis*, and reported that it out-performed smear microscopy Dr. David Alland gave a talk about ultra-sensitive integrated sample processing and a detection system for TB based upon molecular beacons which hybridize to different segments of the *M. tuberculosis rpoB* gene.

The second session on new TB vaccines included presentations by Dr. David McMurray who reviewed the use ofanimal models of tuberculosis in studies of TB pathogenesis, and in the pre-clinical evaluation of novel TB vaccines and drugs , Dr. Yasunobu Yoshikai presented data on the protective efficacy of recombinant BCG vaccine secreting IL-15/Ag85B fusion protein against *Mycobacterium tuberculosis* in mice following intratracheal challange, Dr. Sam Behar discussed the strategies for indentifying and validating immunological correlates of vaccine-induced resistance. :He pointed out the challenges in using immunology to predict the clinical outcome of TB vaccine trials., Dr. Ian Orme reviewed the current status of novelvaccines for tuberculosis, including protein vaccines in adjuvants, recombinant BCG vaccines and rationally attenuated *M. tuberculosis* vaccinesDr. Sugawara presented evidence that a recombinant BCG Tokyo expressing Ag85A protected Cynomolgus monkeys against intratracheal infection with *M. tuberculosis*).

The third session on leprosy began with a talk by Dr. Masanori Matsuoka on the genotypic analysis of *Mycobacterium leprae* from Japan and other Asian countries using SNP and VNTR analysis of the *rpoT* gene to examine the global transmission pattern of leprosy. Dr. Linda Adams presented anpdate on several areas of leprosy research, including the harvesting and characterization of viable *M. leprae* as a research tool, animal models of leprosy, the immunology of reactional states, new diagnostic tools and leprosy vaccine development. Dr. Masamichi Goto presented evidence using

RLEP for the presence of *M. leprae* nucleic acids in normal looking skin of pure neuritic leprosy which may reflect a dormant state for *M. leprae*.Finally, Dr. Masahiko Makino presented evidence that differentiation of human monocyte-macrophages with GM-CSF resulted in the enhancement of the T-cell stimulating activity when the macrophages were infected with *M. leprae*.

The fourth session focused on the immunology and cell biology of TB. Dr. Toshiko Tamura discussed the enhancing effect of peptide-25 derived from Ag85 of *M. tuberculosis* on the induction of functional activation CD8+cytotoxic T lymphocytes in transgenic mice. Dr. Kiyoshi Takeda presented evidence thatlipocalin-2, a small iron-binding protein mediates host defense against mycobacterial infection in gene knock-out mice. Dr. Yukio Koide reported thatlive *M. tuberculosis* blocks phagosome-lysosome fusion in a mouse macrophage-like cell line (RAW264.7) by dissociation of the late endosomal protein, Rab7, from phagosomes. Dr. Hatsumi Taniguchi described a omparison between *M. smegmatis* J15CS and *M. smegmatis* mc2155 in terms of survival in J774-1 cells. Dr. Taniguchi observed a correlation between intracellular growth and cell wall structure. Dr. Masao Mitsuyama present the results of experiment in which mycobacterial mammalian cell entry (mce) protein 1A mediated adherence of mycobacteria and enhanced IL-8 and MCP-1 production by A549 alveolar epithelial cells. Dr. Sohkichi Matsumoto reported thathyaluronan (HA), which mediates binding of mycobacteria to lung epithelial cells, also enhances the growth of *M. tuberculosis* in vitro. Finally, Dr. Huang Hairong discussed the effect of antisense oligodeoxyribonucleotides of the cell wall phosphoribosyl transferase gene on the growth *M. smegmatis* and the identification of essential amino acids in that process.

In the fifth session, here were three presentations on HIV/TB. Dr. Sok Thim from the Cambodian Health Committee gave a talk on the Cambodian Health Committee (CHC) model linking TB and HIV/AIDS clinical care using a community-based approach. The conclusion was that high-quality AIDS care can be delivered in the context of community-based TB control program. Dr. Norio Yamada from The Research Institute of Tuberculosis, Tokyo, presented a review of TB trends in an HIV-epidemic

area in the northern province of Chiang Rai in Thailand. The data show that the impact of HIV on TB has begun to subside following successful control of new HIV infections. There were presentations dealing with spread of tuberculosis by Dr. Wang Lixia, and transmission of drug-resistant tuberculosis among treated patients in Shanghai, byDr. Gao Qian. A presentation on the use of bioinformatics to identify novel drug targets in *M. tuberculosis* was mad by Dr. Wang Honghai, and the function of IdeR in iron metabolism of *M. tuberculosis* was discussed by Dr. Chang Zhengyi. Finally, there were two talks on the development of new TB drugs. Dr. Ann Ginsberg of the Global Alliance for TB Drug Development discussed the history of the Global Alliance, the drugs in organization's portfolio, and process for getting those drugs tested. Dr. Larry Geiter of Otsuka Pharmaceuticals, Inc discussed OPC-67683, a promising new drug for the treatment of tuberculosis.

III. Concluding remarks

The meeting was very successful scientifically and culturally. Participants were informed about the importance of TB and HIV/TB in China and elsewhere in Asia, and discussed recent advances in TB and leprosy research in both the US and Japan.. There was a strong emphasis on the development of new tools (diagnostic tests, vaccines, drugs) to control TB. Everyone agreed that this historical meeting of the US-Japan TB and Leprosy Panels in China was an important first step toward including China as an active partner in the struggle against TB in the Pacific Rim. The Panels may have an important role to play in facilitating training for Chinese researchers in laboratories in the US and Japan.. With such research training in TB and HIV, these young investigators should be able to perform a valuable role upon their return to China. The Panels may also be able to assist Chinese TB researchers to obtain research funding after their return to China so that they can continue their research work utilizing the cutting-edge techniques they have learned abroad. Everyone agreed that one of the most important outcomes of this tri-national TB meeting was the establishment of new contacts between researchers in the three countries which might lead to productive collaborations. To facilitate this process, a list of participants with their e-mail addresses was distributed to the meeting participants for further scientific communication.

Furthermore, a comprehensive workshop of TB diagnostic have to be held for young Asian researchers.

The US and Japanese participants sincerely appreciate the efforts of the local organizing committee and the TB and Other Mycobacterial Diseases Program Officer Gail Jacobs (NIH) in planning and carrying out such excellent meetings. We all felt warmly welcomed by our Chinese hosts and enjoyed the social aspects of the meeting, including the wonderful tour of the Shaolinsi temple. The 43rd joint meeting on TB and leprosy research will take place from July 7th through 9th, 2008, in Baltimore, Maryland, and is being organized by Drs. William Bishai and Jacques Grosset. We hope that more Chinese researchers in both China and the USA will attend this and other future meetings to continue our scientific exchange.

平成19年度　日米医学協力計画　結核・ハンセン病専門部会国内会議

日時：平成20年2月29日午後1時—3月1日午前12時
場所：　(財)結核研究所　4階講堂
一人、質疑含めて20分です。コーヒーブレイクは、とりませんので、各自適当に飲み物をお取りください。発表内容は、USB storage使用でお願いします。

2月29日

開会挨拶と連絡事項：　12時50分—1時

第1部　(1時—2時20分)　　座長：　菅原　勇

1. 松岡正典　(ハンセン病研究センター)「ハンセン病流行地の生活用水中におけるらい菌の定量、定性とその感染源としての意義」
2. 竹田潔（大阪大学)「lipocalin 2による結核感染防御のメカニズム」
3. 牧野正彦、前田百美、田村敏生、宮本友司、向井徹　(ハンセン病研究センター)「ウレアーゼ欠損リコンビナントBCGによるT細胞活性化の検討」
4. 菅原勇　(結核研究所)「組み換えBCG　(Ag85A)のアカゲサル結核に対する防御効果」

第2部　(2時20分—4時)　　座長：吉開泰信

5. 岡田全司　(近畿中央胸部疾患センター)「新規結核ワクチンの開発と応用：HVJ/HSP65 DNA+IL-12 DNAワクチンの予防効果と治療効果」
6. 松本壮吉　(大阪市立大学)「抗酸菌における新規のフリーラジカル産生の回避機構」
7. 杉田昌彦　(京大ウイルス研)「抗酸菌脂質に対する遅延型アレルギー応答」
8. 河村伊久雄、光山正雄（京都大学大学院医学研究科微生物感染症学)「結核菌強毒株による感染マクロファージのネクローシス誘導とその制御機序」
9. 鈴木定彦　(北海道大学)「 結核菌群菌の菌種鑑別が可能なマルチプレックスＰＣＲ法の開発とこれを用いたバングラデシュにおける結核菌群菌の浸いん度調査」

第3部　(4時—5時20分)　　座長：牧野正彦

10. 福田和正、谷口初美（産医大微生物)「16S rRNA遺伝子による環境中の抗酸菌の分布調査」
11. 田村敏生（ハンセン病研究センター)「結核菌体ペプチドによるTh1反応誘導機構の解析」
12. 後藤正道　(鹿児島大学医学部)「純神経型ハンセン病の皮膚内におけるらい菌の有無について」
13. 吉開泰信　(九大生医研)「マイコバクテリア感染防御におけるCD30Lの役割」

懇親会　(5時30分—7時)(1階食堂)
参加者一人1000円を徴収します。

3月1日

第4部　(8時30分—10時10分)　　座長：後藤正道

14. 瀬戸真太郎、小出幸夫（浜松医科大学感染症学・生体防御分野）「結核菌感染マクロファージにおけるメンブレントラフィッキングのイメージ解析」
15. 向井徹　（ハンセン病研究センター）「ハンセン病の診断法と予防法の開発」
16. 後藤義孝、岩瀬祥子、小玉慎二、倉田麻由子（宮崎大学農学部獣医微生物学講座）「ペット用カメから分離される抗酸菌（続報）」
17. 福富康夫　（ハンセン病研究センター）「クロファジミンにより誘導されるマクロファージの細胞死とcaspase等細胞内情報伝達分子の動態」
18. 大原直也　（感染症研究所）「抗酸菌のチミン合成系酵素の解析」

第5部　(10時10分—11時50分)　　座長：光山正雄

19. 岩本朋忠　（神戸市環境保健研究所）「北京型結核菌の集団構造解析から推察される系統発生別薬剤耐性化傾向の違い」
20. 和田崇之、長谷篤　（大阪市立環境科学研究所）「結核菌の縦列反復配列多型（VNTR）がもたらす多彩な情報」
21. 慶長直人　（国際医療センター研究所）「非結核性抗酸菌症(MAC症)疾患感受性遺伝子研究の展開」
22. 松本智成　（大阪府立呼吸器・アレルギー医療センター）「薬剤耐性結核菌の分子疫学解析」
23. 瀧井猛将、林　大介、若生　武、丸山光生、矢野郁也、山本三郎（名古屋市立大学大学院薬学研究科生体防御機能学）
「BCG亜株の比較研究－*in vitro, in vivo*での細菌学的、免疫学的な特徴の解析」

部会員会議　(1階会議室、12時—1時)

12th International Conference on Emerging Infectious Diseases in the Pacific

DAY 1 **TUESDAY, 4 DECEMBER 2007**

15:30 – 17:30 **REGISTRATION (Grand World Ballroom)**

16:00 – 17:30 **RECEPTION AND POSTER VIEWING (Grand World Ballroom)**

17:30 – 18:00 **WELCOMING REMARKS**
Moderator: Carole HEILMAN

Local Committee: Dr. Yichen LU (Haikou VTI Biological Institute)

US Department of State: US Consul General Robert GOLDBERG (US Consulate General Guangzhou)

Japanese Delegation: Dr. Takehiko SASAZUKI (Intl. Medical Center of Japan)

US Delegation: Dr. Ashley HAASE (University of Minnesota)

NIAID/NIH: Dr. Hugh AUCHINCLOSS (National Institute of Allergy & Infectious Diseases (NIAID))

18:00 – 19:00 **BUFFET DINNER**

19:00 – 20:30 **PLENARY SYMPOSIA (WORKING DINNER)**
Moderator: Ashley HAASE

Dr. Keiichi HIRAMATSU (Juntendo University)
Continuing threat of drug-resistant Stapylococcus aureus inside and outside of the hospital

Dr. Liang LI (China CDC)
Prevalence and Control of Multidrug-Resistant Tuberculosis in China

Dr. Joshua P. METLAY (University of Pennsylvania)

Tracking and treating drug resistant respiratory infections

DAY 2 **WEDNESDAY, 5 DECEMBER 2007**

8:00 **INTRODUCTION AND OPENING REMARKS**
Michael APICELLA

SESSION I: Global problems/issues associated with AMR
Moderators: Jaime MONTOYA and Michael APICELLA

8:10 **Dr. Kazunori OISHI** (Osaka University)
Antibiotic resistance of pneumococci and other respiratory bacteria in Asian countries

8:30 **Dr. Satoshi MITARAI** (Research Institute of TB)
Drug resistant Mycobacterium tuberculosis in Japan: A nationwide survey, 2002

8:50 **Dr. Kai Man KAM** (Department of Health, Hong Kong)
MDR TB: Asian Overview

9:10 **COFFEE/TEA BREAK**

SESSION II: Clonal spread, fitness, and modeling studies
Moderators: Hiroshi SUZUKI and Bruce LEVIN

9:30 **Dr. James GALAGAN** (Broad Institute)
Genomic epidemiology of drug resistant TB

9:50 **Dr. Sebastien GAGNEUX** (MRC, UK)
Impact of bacterial genetics on the fitness of drug-resistant M. tuberculosis

10:10 **Dr. Noboru YAMANAKA** (Wakayama Medical University)
Clonal spread of drug-resistant S. pneumoniae and H. influenzae and disease burden for children in Japan

10:30 **Dr. Bruce R. LEVIN** (Emory University)

The fitness costs of resistance and their effects on the epidemiology and future of antibiotic resistant respiratory pathogens

10:50 **COFFEE/TEA BREAK**

11:00 **Dr. Reiko SAITO** (Niigata University)
Prevalence of Amantadine resistant influenza A in Japan and Asian countries

11:20 **Dr. Shuji HATAKEYAMA** (University of Tokyo)
Neuraminidase inhibitor- resistant influenza viruses: Current situation and perspectives

11:40 **Dr. William M. SHAFER** (Emory University)
Use of an experimental infection model to study genetic control of multidrug resistance and bacterial fitness in vivo: importance of an efflux pump

12:00 **Dr. Kayo INABA** (Kyoto University)
Role of SIGNR1, a C-type lectin, in anti-microbial responses

12:20 u **NETWORKING LUNCH WITH "TOPIC TABLES": *select a table based on scientific interests*** (Jade Restaurant)

SESSION III: Mechanisms for emergence of AMR
Moderators: Isamu SUGAWARA and David STEPHENS

14:00 **Dr. Teruo KIRIKAE** (International Medical Center of Japan)
TB genetic mechanism of drug resistance in M. tuberculosis and novel testing techniques

14:20 **Dr. Ruiru SHI** (Henan TB Center, China)
Analysis of drug-resistant gene mutations in M. Tuberculosis clinical isolates by denaturing HPLC