

US-JAPAN COOPERATIVE MEDICAL SCIENCE PROGRAM
40th Tuberculosis and Leprosy Research Conference

THURSDAY, JULY 28 – METROPOLITAN BALLROOM

7:00–8:30 a.m. CONTINENTAL BREAKFAST - available in Metropolitan Foyer
(Please be in line no later than 8:15 a.m.)

8:00 a.m. REGISTRATION – Metropolitan Foyer

8:30 a.m. **OPENING REMARKS:**
Steven Reed, US Tuberculosis and Leprosy Panel
David McMurray, Chair, US Tuberculosis and Leprosy Panel

SESSION 1

Co-chairs: Steven Reed, Yukio Koide

8:40 a.m. Human T cell driven identification of CD8+ antigens in Mtb
David M Lewinsohn

9:00 a.m. Antigen-specific CD8+ T cell and protective immunity to tuberculosis
Samuel Behar

9:20 a.m. Differential activation of gamma-9 delta-2 T cells by live BCG and isopentenyl pyrophosphate: relevance for TB protective immunity
Charles Spencer

9:40 a.m. IL-1 at the early stage of monocyte differentiation to dendritic cells impairs functional activities of dendritic cells
Masahiko Makino

10:00 a.m. **BREAK – Coffee/Tea/Water available in Metropolitan Foyer**

10:20 a.m. Foxp3-expressing T regulatory cells accumulate in the lungs after aerosol infection and suppress immunity to *Mycobacterium tuberculosis*
Kevin Urdahl

10:40 a.m. Protection against *Mycobacterium bovis* Bacille Calmette-Guérin infection in IL-15 deficient mice
Yasunobu Yoshikai

11:00 a.m. Candidate selection for TB vaccine development
Steven Reed

11:20 a.m. The vaccine potential of *M. tuberculosis* promiscuous peptides
Homayoun Shams

11:40 p.m. Novel vaccination (HVJ-liposome / HSP65 DNA+ IL-12 DNA and recombinant 72f BCG) against tuberculosis using cynomolgus monkey
Masaji Okada

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12:00-1:30 p.m. **LUNCH / POSTER SESSION 1 – METROPOLITAN BALLROOM**
Box lunches and drinks will be available for pickup in the foyer – you may eat in the ballroom, foyer or outside. All posters are in the ballroom.

SESSION 2

Co-chairs: David McMurray, Yasunobu Yoshikai

- 1:30 p.m. Immunization with a Sindbis virus based DNA vaccine expressing antigen 85B induces protective immunity against *M. tuberculosis* that is dependent on acquired and innate immune mechanisms
Sheldon Morris
- 1:50 p.m. Intratracheal administration of third-generation lentivirus vectors encoding MPT51 and hsp65 from *M. tuberculosis* induce specific T cell responses in the lung
Yukio Koide
- 2:10 p.m. Memory T lymphocytes generated by BCG vaccination reside within a subset of CD44^{lo} CD62L^{hi} population
Andre Kipnis
- 2:30 p.m. DNA augments antigenicity of mycobacterial DNA-binding protein 1 and confers protection against *Mycobacterium tuberculosis* infection in mice
Sohkichi Matsumoto
- 2:50 p.m. **BREAK – Coffee/Tea/Cold drinks available in Metropolitan Foyer**
- 3:10 p.m. Genetic analysis of host immunity to experimental infection with virulent *Mycobacterium tuberculosis*: identification of the *lpr1* gene within the *sst1* locus and immunological analysis of its function in controlling innate immunity
Igor Kramnik
- 3:30 p.m. Identification of mycobacterial genes that affect interactions with macrophages
Jeffrey D. Cirillo
- 3:50 p.m. Toll-like receptor-dependent innate immune responses in mycobacterial infection
Kiyoshi Takeda
- 4:10 p.m. A polymorphism in human Toll-like Receptor 1 encodes a variant that impairs tuberculosis signaling
Thomas Hawn
- 5:30 p.m. **DINNER CRUISE: Please gather on Union Street outside the hotel by 5:30**
Voucher included in registration packets for those who signed up and will be required to exchange for ticket upon boarding bus. It is suggested that you wear comfortable shoes for boarding bus/boat/beach walking and bring a light jacket or sweater for return trip. Expected return to hotel will be approximately 11:00 p.m.

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FRIDAY, JULY 29 – METROPOLITAN BALLROOM

7:00–8:00 a.m. CONTINENTAL BREAKFAST - available in Metropolitan Foyer
(Please be in line no later than 7:45 a.m.)

SESSION 3

Co-chairs: Linda Adams, Isamu Sugawara

- 8:00 a.m. Dendritic cell maturation is suppressed by *Mycobacterium leprae*
Gilla Kaplan
- 8:20 a.m. Genes in the *Mycobacterium tuberculosis hspX* operon may be associated with hypervirulence and immune modulation
Frederick D. Quinn
- 8:40 a.m. Polymorphism of the 5' flanking region of the IL-12 receptor $\beta 2$ gene partially determines the clinical types of leprosy through impaired transcriptional activity
Hideki Ohyama
- 9:00 a.m. Pulmonary *Mycobacterium avium* complex infection: association with *NRAMP1* gene polymorphism
Naoto Keicho
- 9:20 a.m. **BREAK – Coffee/Tea/Water available in Metropolitan Foyer**
- 9:40 a.m. TNF and tuberculosis: role in granuloma formation and maintenance
P. Ling Lin
- 10:00 a.m. Inhibition of TNF or LT-alpha impairs control of *Mycobacterium leprae* growth in mouse foot pads and is accompanied by dysregulated granuloma formation
Linda Adams
- 10:20 a.m. Nerve damage in a mouse model of *Mycobacterium ulcerans* infection
Masamichi Goto
- 10:40 a.m. Advances in molecular epidemiology of leprosy
Varalakshmi Vissa
- 11:00 a.m. - 12:30 p.m. **LUNCH: ON YOUR OWN – there are numerous restaurants in the hotel and within a few blocks walking distance**

SESSION 4:

Co-chairs: Mark Perkins, Hatsumi Taniguchi

- 12:30 p.m. What is needed to improve diagnostics for TB and leprosy
Mark Perkins

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- 12:40 p.m. Genotyping of *Mycobacterium leprae* by variable number tandem repeats and its application for molecular epidemiology
Masanori Matsuoka
- 1:00 p.m. Rapid detection of *Mycobacterium tuberculosis* complex from sputum samples using novel Loop-Mediated Isothermal Amplification
Tetsu Hase
- 1:20 p.m. Identification of specific proteins and peptides in *Mycobacterium leprae* suitable for the selective diagnosis of leprosy
John S. Spencer
- 1:40 p.m. Antibody responses to MS, MPT51 and PPE-C discriminate between latent and incipient sub-clinical TB
Suman Laal
- 2:00 p.m. The tuberculin mystery: definition of the molecular composition of PPD
Karen Dobos
- 2:20 p.m. Isothermal amplification of genomic DNA from the obligate intracellular pathogen *Mycobacterium leprae*
Richard Slayden
- 2:40 p.m. **BREAK – Coffee/Tea/Cold drinks available in Metropolitan Foyer**

SESSION 5

Co-chairs: Patrick Brennan, Masahiko Makino

- 3:00 p.m. The alternative sigma factor SigE and stress responses in *Mycobacterium leprae*
Diana Williams
- 3:20 p.m. Leprosy reactions after multidrug therapy for multibacillary (MB) leprosy
Ma. Victoria Balagon
- 3:40 p.m. The role of anoxia in tuberculosis pathogenesis and chemotherapy
Helena Boshoff
- 4:00 p.m. Relative fitness of drug-resistant *Mycobacterium tuberculosis*
Sebastien Gagneux
- 4:30-6:30 p.m. **POSTER SESSION 2 – METROPOLITAN BALLROOM**
- 6:30 p.m. **DINNER: ON YOUR OWN**

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SATURDAY, JULY 30 – METROPOLITAN BALLROOM

7:00-8:30 a.m. **“MEET THE MYCOBACTERIAL EXPERTS” BREAKFAST** – Metropolitan Ballroom
Voucher included in registration packets for those who signed up – please bring for entrance

Coffee and tea will be available in the Metropolitan Foyer from 8:00 – 8:30 for those who are not attending the breakfast

SESSION 6

Co-chairs: Tom Gillis, Masamichi Goto

8:30 a.m. Gaps in our understanding of the disease of leprosy
Warwick Britton

9:00 a.m. Nerve function impairment studies in leprosy
Diana Lockwood

9:30 a.m. Toll-like receptors and innate immunity in leprosy
Stephan Krutzik

10:00 a.m. **BREAK – Coffee/Tea/Water available in Metropolitan Foyer**

10:15 a.m. The armadillo model: A full spectrum host
Richard Truman

10:45 a.m. The mouse model in leprosy
Linda Adams

11:15 a.m. Interactions of *M. leprae* and Schwann cell and subsequent nerve damage
Cristina Pessolani

11:45 a.m. Discussion

12:15-1:30 p.m. **LUNCH**
Box lunches and drinks will be served in Grand Ballroom A on the 2nd Floor

Note: Session 7 of the US-Japan meeting and continuation of the leprosy workshop will be held in parallel starting at 1:30 p.m. Attendance at the leprosy workshop afternoon session is limited to those directly involved. The leprosy workshop will take place in the Cedar Conference room on the 3rd floor

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SESSION 7 – METROPOLITAN BALLROOM

Co-chairs: David McMurray, Masao Mitsuyama

- 1:30 p.m. Immunopathology of rat tuberculosis
Isamu Sugawara
- 1:50 p.m. Rocket science: *Mycobacterium marinum* phagosome escape and actin polymerization
Eric Brown
- 2:10 p.m. Caspase-dependent inhibition of macrophage necrosis: A possible mechanism for intracellular survival of *Mycobacterium tuberculosis*
Ikuo Kawamura
- 2:30 p.m. *Mycobacterium tuberculosis* cell wall mannosylated lipoglycans: elucidation of structural motifs that impact human macrophage recognition and response
Larry S. Schlesinger
- 2:50 p.m. A eukaryotic-like protein glycosylation system exists in *Mycobacterium tuberculosis*
John Belisle
- 3:10 p.m. NIH pre-clinical screening program for tuberculosis vaccines: A comparison of selected BCG sub-strains may provide an understanding of the expression of immunity required by novel vaccine candidates.
Angelo Izzo
- 3:30 p.m. *Mycobacterium tuberculosis* induces a novel mechanism of macrophage apoptosis at high multiplicities of infection
Hardy Kornfeld
- 3:50 p.m. **LATE BREAKING: To Be Announced**
- 4:00pm **CLOSING REMARKS:**
Masao Mitsuyama, Chair, Japan Tuberculosis and Leprosy Panel