Bacterial Waterborne and Emerging Infectious Diseases: Collaborative Research Opportunities in North Africa and the Middle East

This interdisciplinary research conference is supported by the National Institute of Allergy and Infectious Diseases of the National Institutes of Health (NIH/NIAID), United States Department of Health and Human Service (HHS). Scientists from the Middle East and North Africa (MENA), United States of America (USA) and other countries will discuss research opportunities related to bacterial waterborne and emerging infectious diseases important to the MENA Region. Disease focus areas for this conference are Cholera, Typhoid, Leptospirosis and Brucellosis.

CONFERENCE AGENDA

Sunday, ..........., 2010

14:00- 18:00   Registration and Information Desk Open

(For guests of the Conference Hotel only)

Monday, ........, 2010

08:00- 19:00   Registration and Information Desk Open

08:00- 09:00   Registration

09:00- 09:20   Welcome and Opening
   F. Gray Handley, Associate Director for
   International Research Affairs
   National Institute of Allergy and Infectious Diseases (NIAID),
   National Institutes of Health (NIH), Bethesda, Maryland, USA

WORKSHOP I: The NIH Extramural Grant Process

09:20- 10:50   NIH Grant Types, Funding Opportunities and Resources
   Peter Jackson, Chief of AIDS Review Branch, Division of Extramural
   Activities, NIAID, NIH, Bethesda, Maryland, USA
Successful Electronic Grant Application Submission
Annie Walker-Abbey, Scientific Review Officer, Microbiology Review Branch, Division of Extramural Activities, NIAID, NIH, Bethesda, Maryland, USA

The NIH Peer Review Process
Gary Madonna, Scientific Review Officer, Microbiology Review Branch, Division of Extramural Activities, NIAID, NIH, Bethesda, Maryland, USA

The Importance of Scientific Collaborations
Peter Jackson, Chief of AIDS Review Branch, Division of Extramural Activities, NIAID, NIH, Bethesda, Maryland, USA

10:50- 11:20 BREAK

11:20- 11:40 NIAID Research Opportunities Related to Bacterial Waterborne and Emerging Infectious Diseases, from a Project Officer Perspective
Robert Hall, Program Officer, Division of Microbiology and Infectious Diseases, NIAID, NIH, Bethesda, Maryland, USA

11:40- 12:00 NIAID /Division of Microbiology and Infectious Diseases (DMID) Research Opportunities - International Research in Infectious Diseases including AIDS Program (IRIDA)
Polly Sager, Assistant Director for International Research, DMID, NIAID, NIH, Bethesda, Maryland, USA

12:00- 12:30 Additional Funding Opportunities:
U.S. Civilian Research and Development Foundation (CRDF)
Stuart Politi, Senior Program Manager, CRDF, Arlington, Virginia, USA

12:30- 13:00 Wrap-up, All Speakers
Questions and Answers

13:00- 14:30 LUNCH
WORKSHOP II: SURVEILLANCE OF WATERBORNE DISEASES

14:30- 17:30  Surveillance of Waterborne Diseases
   Eric Mintz, Team Lead, Global Water Sanitation and Hygiene Epidemiology, Waterborne Diseases Prevention Branch, National Center for Emerging, Zoonotic, and Infectious Diseases (NCEZID), Centers for Disease Control and Prevention (HHS/CDC), Atlanta, Georgia, USA

   Marta Guerra, Epidemiologist, Bacterial Special Pathogens Branch, NCEZID, HHS/CDC, Atlanta, Georgia, USA

   • General background on surveillance
   • Surveillance of waterborne diseases
   • Waterborne disease surveillance in the USA
   • Presentation of “case studies” - examples of detection and investigation of outbreaks of waterborne diseases of particular importance, and how they were detected and investigated.
     o Cholera
     o Typhoid
     o Cryptosporidiosis
     o Leptospirosis
   • Discussion

17:30- 19:00  Poster Viewing

20:00    Dinner and Discussion (at the Hotel)

Tuesday, ……. , 2010

08:00- 19:00  Registration and Information Desk Open

08:00- 09:00  Registration

09:00- 10:00  Welcome and Opening
   Hugh Auchincloss, Jr.
   Principal Deputy Director,
   National Institute of Allergy and Infectious Diseases (NIAID),
   Office of Global Research, NIH, NIAID, Bethesda, Maryland, USA

   Prof. Rajae El Aouad, Director, National Institute of Hygiene, Rabat, Morocco
(Agenda- ............. continued)

Bernadette Abela- Ridder, Department of Food Safety and Zoonoses, World Health Organization, Geneva, Switzerland


S.E. Mrs. Yasmina Baddou, Minister of Health of Morocco, Ministry of Health, Rabat, Morocco – TBC

10:00- 10:30 BREAK

SESSION I: CHOLERA

Chair: Muhammad Zakaria  
Deputy Executive Director, Jinnah Postgraduate Medical Center, Karachi, Pakistan

Rapporteur: Afsar Ali  
Research Assistant Professor  
University of Florida at Gainesville, Florida, USA

10:30- 10:50 The History of Waterborne Diseases in Morocco  
Samira Senouci, Head of Food/Water Microbiology and Food Hygiene, Institut National d’Hygiene, Ministry of Health of Morocco, Rabat, Morocco (in collaboration with the Directorate of Epidemiology and Disease Control).

10:50- 11:10 Cholera Outbreaks in Sudan during 2005-2006: Epidemiological and Bacteriological Profile of Cases  
Ayman Elshayeb, Post-Graduate Student, Al-Neelain University, Khartoum, Sudan for Mubarak Mustafa El Karsani, Director, National Public Health Laboratory, Khartoum, Sudan

11:10- 11:30 Outbreaks of Cholera in Afghanistan  
Bashiruddin Noormal, Director General, Afghanistan Public Health Institute, Ministry of Public Health, Kabul, Afghanistan

11:30- 11:50 How Does Vibrio cholerae Get Dispersed Between Water Bodies?  
Malka Halpern, Senior Lecturer and Researcher, Department of Biology, University of Haifa - Oranim, Tivon, Israel
11:50-12:10 First Investigation of Pathogen *V. cholerae* in Ballast Water of Oil Loading Harbor Skhira -Trapsa (Tunisia – Central Mediterranean Sea)

Monia El Bour, Researcher, Laboratoire de Bactériologie–Pathologie, National Institute of Marine Sciences and Technologies, Salammbô, Tunisia

12:10-13:45 LUNCH

SESSION I: CHOLERA Continued

Chair: Samira Senouci
*Head of Food/Water Microbiology and Food Hygiene*
*Institut National d’Hygiene, Rabat, Morocco*

Rapporteur: Chris Waters
*Assistant Professor, Michigan State University, East Lansing, Michigan, USA*

13:45-14:05 Emergence of Highly Virulent Strains of *Vibrio vulnificus* Isolated from Tilapia in Bangladesh

Afsar Ali, Research Assistant Professor, University of Florida, Gainesville, Florida, USA

14:05-14:25 Are Outbreaks of Cholera in Africa Related to High Impact Weather Events?

Guillaume Constantin de Magny, Research Associate, University of Maryland Institutes for Advanced Computer Studies, College Park, Maryland, USA

14:25-14:45 Bacterial Cell-to-Cell-Communication: Implications for Pathogenesis and Novel Therapeutics

Brian Hammer, Assistant Professor, Georgia Institute of Technology, Atlanta, Georgia, USA

14:45-15:05 Growth in a Biofilm Induces a Hyperinfectious Phenotype in *Vibrio cholerae*

Rita Tamayo, Assistant Professor, Department of Microbiology and Immunology, University of North Carolina School of Medicine, Chapel Hill, North Carolina, USA

15:05-15:40 DISCUSSION

15:40-16:10 BREAK
WORKSHOP III- BIOSAFETY

16:10- 16:20 Welcome and Introductions

16:20- 16:40 The Biosafety Program at National Institute of Hygiene of Morocco (NIHM)-Implementing a Biosafety and Biosecurity Plan of Action
   *Rhizlane Selka, Chargée de Biosûreté et Biosécurité, Bureau des Laboratoires, Institut National d'Hygiène, Rabat, Morocco*

16:40- 17:05 Biosafety Considerations for Collaborations with U.S. Investigators: An Overview of NAMRU-3 Collaborations
   *Hanan El-Mohammady, Medical Research Scientist and Biosafety Officer, U.S. Naval Medical Research Unit No. 3 (NAMRU-3), Cairo, Egypt*

17:05-17:30 The MENA Region Network of High Containment Labs - Capabilities / special considerations / training opportunities
   *John Klena, Laboratory Chief, International Emerging Infections Program (IEIP), Centers for Disease Control and Prevention (HHS/CDC) Laboratories, Beijing, China*

17:30-18:30 The Impact of Biosafety on Planning and Construction of High Containment Facilities and SOP compatibility
   *Gary Zackowitz, Program Officer/Architect, Office of Biodefense Research Affairs, NIAID, NIH, Bethesda, Maryland, USA*

   Mechanical Systems Complexity and Commissioning
   *Babak (Bob) Farahpour, Program Officer, Office of Biodefense Research Affairs, NIAID, NIH, Bethesda, Maryland, USA*

18:30- 19:00 DISCUSSION

**Wednesday, ............., 2010**

08:00- 19:00 Registration and Information Desk

08:00- 09:00 Registration
LEPTOSPIROSIS POLICY ISSUES

08:30- 08:45  Leptospirosis: Translational Research and Policy Development
              Data to Direct Policy- Estimating the Burden Of Human Leptospirosis
              Bernadette Abela-Ridder, Leptospirosis Program
              WHO, Geneva, Switzerland

08:45- 9:00  Leptospirosis in Egypt: Past, Present, and Future Perspectives
             Azza El Sherbini, Consultant, Hepatology and Infectious Diseases,
             Tanta Fever Hospital Research Unit, Ministry of Health of Egypt,
             Tanta, Egypt

SESSION II: LEPTOSPIROSIS

Chair: Brian Stevenson
       Professor Department of Microbiology, Immunology and Molecular Genetics,
       University of Kentucky College of Medicine, Lexington, Kentucky, USA

Rapporteur: Rudy Hartskeerl
            Research Coordinator, Department of Biomedical Research, Royal Tropical
            Institute (KIT), Amsterdam, the Netherlands

09:00- 09:20  Host, Pathogen and Environmental Factors that Contribute to the
              Clinical Outcome of Leptospira Infection of Humans
              Joseph Vinetz, Professor of Medicine, Division of Infectious Diseases,
              Department of Medicine, University of California at San Diego
              (UCSD), School of Medicine, San Diego, California, USA

09:20- 09:40  The Prevalence of Leptospirosis in Patients Within End Stage Renal
              Failure in Sudan
              Isam El Jalii, Associate Professor, King Faisal University,
              Al-Hassa, Saudi Arabia

09:40- 10:00  A Six Year Sero-Bacteriological Study of Leptospirosis in
              14 Provinces of Iran
              Gholamreza Abdollahpour, Associate Professor, Faculty of Veterinary
              Medicine, University of Tehran, Tehran, Iran

10:20- 10:40  BREAK
Agenda- …………….. continued

SESSION II: LEPTOSPIROSIS  Continued

Chair: Gholamreza Abdollahpour  
Associate Professor, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran

Rapporteur: Joseph Vinetz  
Professor of Medicine, Division of Infectious Diseases, Department of Medicine, UCSD School of Medicine, San Diego, California, USA

10:40- 11:00  Leptospirosis Cases Recorded at the National Institute of Health in Morocco, 2004-2010  
Hafida Oukouchoud, Institut National d’ Hygiene, Ministry of Health of Morocco, Rabat, Morocco

11:00 – 11:20  A Proteomic Approach to Elucidate Host-Pathogen Interactions During Persistent Transmission of Leptospires in Clinically Asymptomatic Reservoir Hosts  
Jarlath Nally, Lecturer, School of Agriculture, Food, Science & Veterinary Medicine, University College Dublin, Dublin, Ireland

11:20 – 11:40  Innate Immune Response to Pathogenic Leptospira is Dependent on Both TLR2 and TLR4 Signaling in Human Whole Blood  
Rudy Hartskeerl, Research Coordinator, Department of Biomedical Research, Royal Tropical Institute (KIT), Amsterdam, the Netherlands

11:40 – 12:00  *Leptospira interrogans* uveitis-associated proteins  
Brian Stevenson, Professor Department of Microbiology, Immunology And Molecular Genetics, University of Kentucky College of Medicine, Lexington, Kentucky, USA

12:00 – 12:20  Len Motifs of Leptospiral Endostatin-Like Proteins  
Ashutosh Verma, Research Associate, Department of Microbiology, Immunology and Molecular Genetics, University of Kentucky, Lexington, Kentucky, USA

12:20- 12:50  DISCUSSION

12:50- 14:00  LUNCH
SESSION III: TYPHOID

Chair: Andreas Baumler,
Professor and Vice Chair, Genome and Biomedical Sciences Facility,
University of California at Davis, Davis, California, USA

Rapporteur: John Klena
Laboratory Chief, International Emerging Infectious Disease Program, U.S.
Center for Disease Control and Prevention, Beijing, China

14:00- 14:20 Detection of β-lactamases Production in Human and Avian Salmonella
from Egypt and Algeria
Hakim Abdelhakim Aouf, Laboratory of Molecular Cellular
Biology, University of Science and Technology, Algiers, Algeria

14:20- 14:40 Early Diagnosis and Molecular Epidemiology of Typhoid Fever in
Indonesia
Mochammad Hatta, Professor, Department of Clinical Microbiology,
Faculty of Medicine, Hasanuddin University, Makassar, South
Sulawesi, Indonesia

14:40- 15:00 Low-Dose Azithromycin in Comparison to Ceftriaxone for
Treatment of Uncomplicated Typhoid Fever
Isabelle Nakhla, Medical Research Scientist, U.S. Naval Medical
Research Unit No. 3 (NAMRU-3), Cairo, Egypt

15:00- 15:20 Prevalence and Antimicrobial Resistance of Salmonella enterica
Group C Strains Isolated From Humans in Morocco
Farida Ohmani, Institut National d’Hygiene, Ministry of Health of
Morocco, Rabat, Morocco

15:20- 15:40 BREAK

SESSION III: TYPHOID  Continued

Chair: Eli Schwartz
Professor of Medicine, Tel Aviv University, and Director of Center of Travel and
Tropical Medicine, Sheba Medical Center, Tel Hashomer, Israel

Rapporteur: Isabelle Nakhla
Medical Research Scientist, U.S. Naval Medical Research Unit No. 3 (NAMRU-3)
Cairo, Egypt
(Agenda, ............... continued)

15:40- 16:00  An Oral Vaccine Aimed at Simultaneous Protection Against Typhoid/Paratyphoid Fevers and Shigellosis
   Dennis Kopecko, Chief, Laboratory of Enteric and Sexually Transmitted Diseases, Center for Biologics, Evaluation, and Research, U.S. Food and Drug Administration (FDA/HHS), Washington D.C., USA

16:00- 16:20  TviA: Salmonella Typhi’s Switch to Stealth Mode
   Andreas Baumler, Professor and Vice Chair, Genome and Biomedical Sciences Facility, University of California, Davis, Davis, California, USA

16:20- 16:40  Salmonella enterica serovar Typhi Infections in Northern Africa and the Middle East: Antibiotic Resistance and Genetic Characterization of Strains
   John Klena, Laboratory Chief, International Emerging Infectious Disease Program, US Center for Disease Control and Prevention, Beijing, China

16:40- 17:00  High Rates of Antimicrobial Resistance Among Clinical Isolates of Non Typhoidal Salmonella in a Pediatric Teaching Hospital in Egypt
   Maha Mohamed Gaafar, Assistant Professor, Department of Clinical Pathology, University School of Medicine, Cairo, Egypt

17:00- 17:30  DISCUSSION

THURSDAY, ........ 2009

SESSION IV: BRUCELLOSIS

Chair: Gary Splitter
   Professor, Animal Health and Biomedical Sciences School of Veterinary Medicine, University of Wisconsin at Madison, Madison, Wisconsin, USA

Rapporteur: Thomas Ficht
   Professor, College of Veterinary Medicine and Biological Sciences, Texas A & M University, College Station, Texas, USA
(Agenda …………….. continued)

09:00-09:20 Laboratory Investigation of Human Brucellosis and the Search of Discriminative Markers
George Araj, Professor and Director of Clinical Microbiology, American University of Beirut Medical Center, Lebanon

09:20-09:40 Genetic Relationship of Brucella Strains Isolated from the African Continent with Global Isolates Based on Extensive Multilocus Sequence Analysis
Adrian Whatmore, FAO/WHO Collaborating Centre for Brucellosis OIE Brucellosis Reference Centre, Veterinary Laboratories Agency Addlestone, UK

09:40-10:00 Comparison of the Serological Tests Used for the Laboratory Diagnosis of Brucellosis
Hanan El Mohammady, Medical Research Scientist, U.S. Naval Medical Research Unit No. 3 (NAMRU-3), Cairo, Egypt

10:00-10:20 Activation of the Caspase-1 Inflammasome by the T4SS of Brucella spp.
Renee Tsolis, Associate Professor, Department of Microbiology and Immunology, University of California Davis, Davis, California, USA

10:20-10:40 BREAK

SESSION IV: BRUCELLOSIS  Continued

Chair: George Araj- TBC
Professor and Director of Clinical Microbiology, American University of Beirut, Beirut, Lebanon

Rapporteur: Renee Tsolis
Associate Professor, University of California Davis, Davis, California, USA

10:40-11:00 Brucella Melitensis: Using Basic Science to Develop Vaccines
Gary Splitter, Professor Animal Health and Biomedical Sciences, School of Veterinary Medicine University of Wisconsin, Madison, Wisconsin, USA

11:00-11:20 Particle Delivery Systems Enhance the Efficacy of Brucellosis Vaccines
Thomas Ficht, Professor, College of Veterinary Medicine and Biological Sciences, Texas A & M University, College Station, Texas, USA
(Agenda ............... continued)

11:20- 11:40 Vaccination of Mice with Gamma-Irradiated Brucella Neotomae and its Recombinant Strains Induces Protection Against Virulent B. abortus, B. melitensis, and B. suis Challenge
   Ramesh Vemulapalli, Microbiology and Immunology Section Head, Associate Professor of Veterinary Immunology/Microbiology School of Veterinary Medicine Purdue University, West Lafayette, Indiana, USA

11:40- 12:10 DISCUSSION

12:10- 12:40 Civilian Research Development Foundation (CRDF) Collaboration Grants
   Stuart Politi, Senior Program Manager, CRDF, Arlington, Virginia, USA

12:40- 12:45 Closing Remarks and Adjourn

12:45 - 14:00 LUNCH

14:00 - 18:00 SITE VISITS