



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*

(Agenda-, 2010 continued)

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**

(Agenda-, 2010 continued)

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.
 - Cholera
 - Typhoid
 - Cryptosporidiosis
 - 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

H.E. Samuel L. Kaplan, Ambassador of the United States
to Morocco, US Embassy, Rabat, Morocco.

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*

(Agenda- continued)

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 cholera*
*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**

(Agenda- continued)

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
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(Agenda- continued)

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 Leptospire 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**

(Agenda- continued)

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**