

DMID INTERNATIONAL RESEARCH IN INFECTIOUS DISEASES MEETING
May 31– June2, 2011

BETHESDA NORTH MARRIOTT HOTEL AND CONFERENCE CENTER
BETHESDA, MARYLAND

Tuesday, May 31st

7:30 AM Registration

9:00 AM Welcome
***Polly Sager* - Assistant Director for International Research in Infectious Diseases,
Division of Microbiology and Infectious Diseases NIAID, NIH, DHHS**

**9:05 AM *Keynote Address: Dr. Anthony Fauci* – Director, National Institute of Allergy
and Infectious Diseases**
NIAID Global Health Research: A 20-Year Snapshot

Session I: ICIDRs and TMRCs

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9:40 AM <i>Aldo A.M. Lima</i> – Federal University of Ceará and University of Virginia Long-Term Impact of Zinc, Vitamin A, Glutamine, and Arginine (ZAQR) on Growth and Cognition in Children in NE Brazil	1
10:00 AM <i>Edward T. Ryan</i> – Massachusetts General Hospital, International Centre for Diarrhoeal Disease Research, Bangladesh Anti- <i>Vibrio cholerae</i> Immune Responses, Including Memory B Cell Responses, in Young Children, Older Children, and Adults with Cholera Caused by <i>V. cholerae</i> O1 El T or Ogawa in Bangladesh	2
10:20 AM BREAK	
10:40 PM <i>Edgar M. Carvalho</i> – Federal University of Bahia, Brazil Loss of Antigen-specific Circulating Memory CD4+ T Cells in Individuals with Subclinical <i>L. Braziliensis</i> Infection and in Patients Cured of Cutaneous and Mucosal Leishmaniasis	3
11:00 AM <i>Jerrold Ellner</i> – Boston University, Boston, MA Multiplex Evaluation of IFN γ and CXCL-10 Increases Sensitivity of an Interferon Gamma (IFN γ) Release Assay (IGRA) for the Detection of <i>M. Tuberculosis</i> (MTB) Infection in Household Contacts of TB Patients (HHCs)	4
11:20 AM <i>Pablo Vial</i> – Universidad del Desarrollo, Santiago, Chile Controlled Trial of High-Dose Intravenous Methylprednisolone for Hantavirus Cardiopulmonary Syndrome (HCPS) in Chile	5

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Session I: ICIDRs and TMRCs (con't)

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11:40 AM <i>Christopher Plowe</i> – Howard Hughes Medical Institute, University of Maryland School of Medicine, Baltimore MD Molecular and Immune Correlates of Protection by a Blood Stage Malaria Vaccine	6
12:00 PM <i>Michael Gottlieb</i> –MAL-ED Consortium MAL-ED : A Multidisciplinary Global Effort to Understand the Vicious Cycle of Malnutrition and Enteric Diseases and Its Consequences for the Growth and Development of Children in the Developing World	7
12:20 PM <i>LUNCH</i>	

Session II: Epidemiology and Natural History

1:20 PM <i>Plenary: Peter J. Hotez</i> – The George Washington University, Washington, DC Innovation in the Control and Elimination of Neglected Tropical Diseases	8
2:20 PM <i>Eva Harris</i> – University of California, Berkeley, CA, USA Unusual Dengue Virus 3 Epidemic in Nicaragua, 2009	9
2:40 PM <i>Barry Beaty</i> – Colorado State University, Fort Collins, CO, USA Studies on the Control of <i>Aedes aegypti</i> and Epidemic Dengue and on the Diagnosis and Prognosis of Dengue Infections in Merida, Mexico	10
3:00 PM <i>Kamrul Hasan</i> – Jahangirnagar University, Savar, Bangladesh Monkeys on the Move: What Role Do Performing Monkeys Play in the Movement of Infectious Agents in Bangladesh?	11
3:20 PM <i>BREAK</i>	
3:40 PM <i>Aubree Gordon</i> – University of California, Berkeley, CA, USA Influenza In The Tropics: High Burden and Defined Seasonality in a Nicaraguan Pediatric Cohort	12

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Session II: Epidemiology and Natural History (con't)

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4:00 PM	<i>Philip Hopewell</i> – University of California, San Francisco, CA, USA Tuberculosis Epidemiology and Novel Transmission Routes in Rural Tanzania	13
4:20 PM	<i>Jamila El Baghdadi</i> – Military Hospital Mohamed V, Hay Riad Rabat, Morocco Genetic Predisposition to Tuberculosis: IL-12R β 1 Deficiency in Two of Fifty Children with Severe Tuberculosis	14
4:40 PM	<i>Selma Jeronimo</i> – Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil The Dynamics of <i>Leishmania infantum chagasi</i> Infection in Periurban Areas of the state of Rio Grande do Norte	15
5:00 PM	<i>Alain B. Labrique</i> – Program for Global Disease Epidemiology and Control, Department of International Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA Seroincidence of Intrapartum Hepatitis E Virus Infections in Pregnant Bangladeshi Women Between 2001 and 2010	16

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Session 111: Treatment and Diagnostics

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8:30 AM	Plenary: Mark Mirochnick –Boston University, Boston, MA, USA	17
9:40 AM	Edmund Seto – School of Public Health, University of California, Berkeley, CA, USA Developing Effective Tools to Combat Low-level Schistosomiasis Transmission in Sichuan, China	18
10:00 AM	Wei Li – Colorado State University, Fort Collins, CO, USA Rapid and Cost Effective Molecular Assays for Surveillance of Drug Resistance in Leprosy and Strain Typing of <i>Mycobacterium leprae</i> Using Real Time PCR High Resolution Melt Analysis	19
10:20 AM	BREAK	
10:40 AM	Marivic Balagon – Leonard Wood Memorial, Cebu Skin Clinic, Cebu Philippines Molecular Epidemiology of Leprosy in Cebu: Insights on Incidence, Transmission and Geographical Distribution During 2004-2010 Via <i>Mycobacterium leprae</i> Strain Typing.	20
11:00 AM	Alan Poling – APOPO, Morogoro, Tanzania Using Trained Pouched Rats (<i>Cricetomys Gambianus</i>) to Detect Human Tuberculosis	21
11:20 AM	Yap Boum II – Epicentre Mbarara, Uganda Diagnosis of Pulmonary Tuberculosis Using Colorimetric Methods in High Burden Resource Limited Countries.	22
11:40 AM	Katherine A. Brown – Institute for Cellular and Molecular Biology, The University of Texas at Austin, Austin, Texas USA Development of Reagents and Assays for the Detection Of Pathogenic <i>Burkholderia</i> Species	23
12:00 PM	LUNCH	

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Session IV: Pathogenesis and Immunology

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1:00 PM	<i>Plenary: John Mekalanos – Harvard Medical School, Boston MA, USA</i>	24
2:00 PM	<i>Reem Al-Mubarak – Colorado State University, Fort Collins, CO, USA</i> Identification of Increased Levels of Polyunsaturated Fatty Acids in Serum of Lepromatous Leprosy Patients: Implications for Leprosy Biomarker Discovery and Mechanisms of Pathogenesis	25
2:20 PM	<i>Lucas P. Carvalho – Federal University of Bahia, Salvador, Brazil</i> TSLP Regulates Immune Response in Human Cutaneous Leishmaniasis	26
2:40 PM	<i>Fernanda Novalis – Department of Pathobiology, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA, USA</i> The Role of CD8 T Cells in <i>Leishmania braziliensis</i> Infection	27
3:00 PM	<i>BREAK</i>	
3:20 PM	<i>Alan L. Rothman – University of Massachusetts Medical School, Worcester, MA, USA</i> B Cell Responses During Primary and Secondary Dengue Virus Infections in Humans	28
3:40 PM	<i>Shahid Jameel – International Centre for Genetic Engineering and Biotechnology, New Delhi, India</i> Proteomic, Peptidomic and Metabonomic Analysis of Hepatitis E Infected Patients Provides Insights into Disease Pathogenesis	29
4:00 PM	<i>Walderez O. Dutra – Department of Morphology and INCT-DT, Institute of Biological Sciences, UFMG, SRI International, Biosciences Division, Center for Infectious Disease Research, Menlo Park, CA, USA</i> <i>Trypanosoma cruzi</i> -Induced Activation of Functionally Distinct and CD4-CD8- (Double Negative) T Cells in Individuals with Polar Forms of Chagas Disease	30

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Session IV: Pathogenesis and Immunology (con't)

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4:20 PM	<i>Richelle C. Charles</i> – Division of Infectious Diseases, Massachusetts General Hospital, Boston, MA, USA; Department of Medicine, Harvard Medical School, Boston, MA, USA High-throughput Proteomic-based Screening of Anti- <i>V. cholerae</i> Antibody Responses in Humans	31
4:40 PM	<i>Philip L. Felgner</i> – University of California, Irvine, CA, USA Predicting Immunity to Malaria and Leptospirosis on a Genome-wide Scale with Proteome Microarrays	32
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8:40 AM	Plenary: Kim Mulholland – Menzies School of Health Research, Darwin, London School of Hygiene and Tropical Medicine, London, UK; Murdoch Childrens Research Institute, Melbourne, Australia New Vaccines in Developing Countries – What Research is Needed and Whose Responsibility is It?	33
9:40 AM	Firdausi Qadri – International Centre for Diarrheal Disease Research, Bangladesh (ICDDR, B) Safety and Immunogenicity of an Oral Inactivated Whole Cell Bivalent Cholera Vaccine, ShanChol, in Bangladeshi Participants: Phase II Studies in an Age Descending Design from Adults to Young Children	34
10:00 AM	Thomas A. Ficht – Dept. Veterinary Pathobiology, Texas A&M University and Dept. Molecular and Cellular Medicine, Texas A&M Health Science Center College Station, TX, USA Particle Delivery Systems Enhance the Efficacy of Brucellosis Vaccines	35
10:20 AM	Sharon Witonsky – Virginia Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA, USA Role of TLRs in DC Function and Clearance of <i>Brucella abortus</i> Vaccine and Pathogenic Strains in Vitro and in Vivo	36
10:40 AM	BREAK	
11:00 AM	Ladaporn Bodhidatta – Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand Clinical Aspects of an Evaluation of Safety, Immunogenicity, and Efficacy of WRSS1, an Oral Live Attenuated Shigella Sonnei Vaccine Candidate, in Thai Adults	37
11:20 AM	Shaden Kamhawi – Vector Molecular Biology Section, Laboratory of Malaria and Vector Research, NIAID, NIH, Rockville, MD, USA Mechanism of Protection Against Leishmaniasis Resulting from Immunity to Salivary Proteins of Vector sand Flies and Their Relevance in Humans	38

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Session V: Vaccines and Immunology (con't)

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11:40 AM	<i>Kenneth Gollob</i> – Tropical Disease Research Program, Center for Infectious Disease Research, SRI International, Menlo Park, CA, USA CD4+ Memory T Cell Assessment in Individuals with Active Cutaneous Leishmaniasis: Differential Distribution of Immunoregulatory Potential	39
12:00 PM	<i>Om Prakash Singh</i> – Infectious Disease Research Laboratory, Department of Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, India Antigen Specific IFN- γ /IL-10 Ratio Correlates with Disease Status in Human Visceral Leishmaniasis	40
12:20 PM	<i>Diana Martin</i> – Centers for Disease Control and Prevention, Atlanta, GA, USA T Cell Responses to <i>Trypanosoma cruzi</i> in Regions with High or Low Serology	41

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POSTER SESSION

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| 1. | <p><i>Borrelia Burgdorferi</i> Lmp1 Domains are Potentially Processed as Separate Polypeptides and Play Independent Roles in Infectivity
Xiuli Yang^{1,2}, Alexis A. Smith^{1,2}, Brian Backstedt^{1,2}, Toru Kariu^{1,2} and Utpal Pal^{1,2}
¹Department of Veterinary Medicine, University of Maryland, College Park and ²Virginia-Maryland Regional College of Veterinary Medicine, College Park, MD, USA</p> | 42 |
| 2. | <p>The Hepatitis E Virus ORF3 Protein Regulates the Expression of Liver-Specific Genes by Modulating Localization of Hepatocyte Nuclear Factor 4
Vivek Chandra¹, Prasida Holla¹, Dhruva Ghosh¹, Debarshi Chakrabarti², Muralidhara Padigar² and Shahid Jameel¹
¹International Centre for Genetic Engineering and Biotechnology, New Delhi, India, ²Piramal Life Sciences Limited, Mumbai, India</p> | 43 |
| 3. | <p>Cross-Reactive Antibodies to Avian Influenza H5N1 and 2009 Pandemic H1N1 in Non-exposed US Military Personnel
S. Pichyangkul¹, D. L. Saunders¹, A. Jongkaewwattana², A. Thitithanyanont³, S. Wiboon-ut³, J. Kramyu², K. Yongvanitchit¹, A. Limsalakpetch¹, U. Kum-Arb¹, D. Mongkolsirichaikul¹, N. Khemnu¹, A. Timmermans¹, R. G. Jarman¹, J-M Garcia⁴, M. Peiris⁴, M. Moyle⁵, C. J. Mason¹, D. G. Heppner⁶, and D. S. Walsh¹
¹USAMC-AFRIMS, Thailand, ²BIOTEC, Thailand, ³Mahidol University, Thailand, ⁴HKU-Pasteur, Hong Kong, ⁵Theraclone Sciences, USA, ⁶WRAIR, USA</p> | 44 |
| 4. | <p>Immunological and Viral Features in Patients with Overactive Bladder Indicate an Early Stage of Myelopathy
Silvane B. Santos^{1,2,3}, Paulo Oliveira¹, Matheus Tannus¹, Tania Luna¹, Anselmo Souza^{1,3}, Thais Delavechia¹, Márcia Nascimento¹, Glória Orge¹, Isadora Siqueira¹, Davi Tanajura^{1,3}, André Luiz Muniz^{1,3}, Marshall J Glesby⁴ & Edgar M. Carvalho^{1,3}
¹Serviço de Imunologia, Complexo Hospitalar Universitário Professor Edgard Santos Universidade Federal da Bahia, Salvador, Bahia, Brazil ²Departamento de Ciências Biológicas, Universidade Estadual de Feira de Santana, Bahia, Brazil; ³Instituto Nacional de Ciência e Tecnologia de Doenças Tropicais (CNPq/MCT), Salvador, Bahia, Brazil; ⁴Weill Cornell Medical College, New York, NY, USA</p> | 45 |

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6. Population-based Random Sampling for Measles Susceptibility in Tianjin China Bradley F. Carlson, Matthew L. Boulton, JoLynn P. Montgomery, Xiexiu Wang, Ying Zhang, Brenda Gillespie University of Michigan School of Public Health, University of Michigan and Tianjin Centers for Disease Control and Prevention	47
7. Role of Acute B Cell Response in Dengue Disease Severity and Long-term Immunity Magelda Montoya ¹ , Simona Zompi ² , Marie Pohl ² , Angel Balmaseda ¹ , Eva Harris ² ¹ Departamento de Virología, Centro Nacional de Diagnóstico y Referencia, Ministry of Health, Managua, Nicaragua; ² Division of Infectious Diseases and Vaccinology, School of Public Health, University of California, Berkeley, CA, USA	48
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9. Maternal Vitamin A and Beta-Carotene Supplementation and Risk of Bacterial Vaginosis: A Randomized Controlled Trial in Rural Bangladesh Alain B. Labrique ¹ , Parul Christian ¹ , Hasmot Ali ² , Mark Rickman ³ , Lee Wu ¹ , Mahbubur Rashid ⁴ , Keith P. West Jr ¹ ¹ Center for Human Nutrition, Department of International Health, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, USA; ² JiVitA Project, Gaibandha, Bangladesh; ³ Olive View, UCLA Medical Center, Sylmar, California, USA; ⁴ Partners in Population and Development, Secretariat, Dhaka, Bangladesh	50

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| <p>10. Molecular Epidemiology Investigations of Leprosy in China: Insights on Transmission in Endemic Qiubei County, Yunnan (2002-2010) and Genotypic Variations of <i>Mycobacterium Leprae</i> Across China</p> <p>Xiaoman Weng¹, Jason Vander Heiden², Yan Xing¹, Jian Liu², Wang Yonghong³, Ning Yong⁴, Li Ming⁵, Wu Wenbing⁶, Zhang Lianhua⁷ and Varalakshmi Vissa²</p> <p>¹Beijing Friendship Hospital - Affiliate of Capital University of Medical Sciences, Beijing Tropical Medicine Research Institute, Beijing, China, ²Department of Microbiology, Immunology, and Pathology, Colorado State University, Fort Collins, Colorado, USA, ^{3,4,5,6,7} Provincial Skin Disease Control Stations in Guizhou, Sichuan, Guangdong, Fujian and Jiangsu</p> | 51 |
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Carine Truyens, Patricia Rodríguez, Yves Carlier
Lab. of Parasitology, Faculty of Medicine, Université Libre de Bruxelles, Brussels, Belgium</p> | 54 |
| <p>14. Maternal infection with <i>Trypanosoma cruzi</i> and Congenital Chagas Disease Polarize Infant Immune Responses to Vaccines Toward a Type 1-Response
Yves Carlier¹, Nicolas Dauby¹, Cristina Alonso-Vega², Eduardo Suarez², Amilcar Flores², Emmanuel Hermann¹, Marisol Córdova², Tatiana Tellez², Faustino Torrico² and Carine Truyens¹
¹Lab. of Parasitology, Faculty of Medicine, Université Libre de Bruxelles, Brussels (ULB), Belgium; ²Faculty of Medicine, Universidad Mayor de San Simon (UMSS), Cochabamba, Bolivia</p> | 55 |
| <p>15. Human Lipid Metabolism is Altered by <i>Leishmania Infantum Chagasi</i> Infection
Cristina I. Ottoni,¹ Adam Simons,¹ Nubia N. Pontes,^{1,2} Richard D. Pearson,³ Upasna Gaur,⁴ Noah Craft,⁵ Kevin Bruhn,⁵ Mary E. Wilson,⁴ Selma M.B. Jeronimo^{1,2,6}
¹Department of Biochemistry, and ²Health Post-Graduate Program, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil; ³ Department of Medicine and Pathology, University of Virginia, Charlottesville, VA; ⁴Department of Medicine, University of Iowa, Iowa City, IA; ⁵Divisions of Dermatology and Infectious Diseases, Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center and University of California at Los Angeles, CA, USA, ⁶Institute of Science and Technology of Tropical Diseases, Salvador, BA, Brazil</p> | 56 |