

2nd Annual Global Health and Infectious Disease Conference

Friday March 28, 2014, 1:00 – 2:00 pm

EPNEC Atrium & Great Room A

#1 *Pharmaceutical Related Challenges in Developing Countries*

Jonna Kemper, Sarah Brown, Cortney Rogers St. Louis Children's Hospital, Washington University School of Medicine, St. Louis Children's Hospital

#2 *Biophysical Investigation of HSV Tegument Protein-Protein Interactions*

Eric Lazear and Daved H. Fremont, Department of Pathology and Immunology, Washington University in St. Louis

#3 *Schistosoma mansoni: Assessment of Effects of Oleic Acid, Cercarial Age and Water Temperature on Parasite-Host Attraction*

Vivien ST. Lee¹, Jefferey L. Burgess¹, Charles R. Sterling^{1,2}, Eric A. Lutz¹; Community, Environment and Policy, Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ¹, Department of Veterinary Science and Microbiology, University of Arizona, Tucson, AZ²

#4 *Is dsRNA End Capping by VP35 Important for Filoviral Immune Evasion?*

Gai Liu¹, Priya Luthra², Megan Edwards², Daisy W. Leung¹, Christopher F. Basler² and Gaya K. Amarasinghe¹; ¹Department of Pathology and Immunology, Washington University School of Medicine in St Louis; ²Department of Microbiology, Mount Sinai School of Medicine, New York

#5 *Impact Of Pneumococcal Vaccination on the Pediatric Nasopharyngeal Microbiome in the First Year of Life*

Maze Ndukum-Ndonwi¹, Brenda Kwambana², Hongyu Gao¹, Kathie A. Mihindukulasuriya¹, Kristine M. Wylie¹, Yanjiao Zhou¹, Todd Wylie¹, Susanna Siebert¹, Erica Sodergren¹, Saha Samir³, Nierman Bill⁴, Lucero Luluth⁵, Adrian Peter⁶, Martin Antonio², George M. Weinstock¹; ¹The Genome Institute (TGI), Washington University in St. Louis; ²Medical Research Council Unit (MRC), Banjul, The Gambia; ³Child Health Research Foundation (CHRF), Bangladesh; ⁴J. Craig Venter Institute (JCVI), USA; ⁵Research Institute for Tropical Medicine (RITM), Muntinlupa City, Philippines; ⁶Respiratory and Meningeal Pathogens Research Unit (RMPRU), Soweto, South Africa

#6 *Gut Microbiome Dynamics of Humans Infected with Gastrointestinal Parasites*

Bruce Rosa¹, Yanjiao Zhou², Maria Yazdanbakhsh³ and Makedonka Mitreva^{1,4}; ¹The Genome Institute, Washington University School of Medicine; ²Division of Laboratory Medicine, Department of Pediatrics, Washington University School of Medicine; ³Department of Parasitology and Leiden Parasite Immunology Group, Leiden University Medical Center; ⁴Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

#7 *Exported Epoxide Hydrolases of Plasmodium Falciparum: Possible Role in Modulation of Host Vasoregulation*

Natalie J. Spillman and Daniel E. Goldberg; Howard Hughes Medical Institute, Washington University School of Medicine

#8 *Pulmonary Vascular Delivery of an Anti-RSV Antibody Gene as Protection Against RSV Infection*

Felipe Alves Morais^{1,2}, Maurizio Buggio¹, Sergey Kaliberov¹, Sérgio Paulo Bydlowski², Mark Buller³, Stefan Worgall⁴ and David T. Curiel¹; ¹Department of Radiation Oncology, School of Medicine, Washington University in St. Louis; ²Laboratory of Genetics and Molecular Hematology (LIM 31), School of Medicine, Universidade de São Paulo, São Paulo SP, Brazil; ³Departament of Molecular Microbiology & Immunology, Saint Louis University School of Medicine; ⁴Division of Pediatric Pulmonology, Weil Cornell Medical College, Cornell University, New York

#9 *A Novel Mouse Model For Immune Reconstitution Inflammatory Syndrome*

Kristin L. Griffiths¹, Samantha Slight², Shabaana A. Khader²; ¹Department of Molecular Microbiology, Washington University in St. Louis, St. Louis, MO; ²Division of Infectious Diseases, Department of Pediatrics, University of Pittsburgh School of Medicine, Pittsburgh, PA

2nd Annual Global Health and Infectious Disease Conference

Friday March 28, 2014, 1:00 – 2:00 pm

EPNEC Atrium & Great Room A

#10 *A Viral RNA Secondary Structure Antagonizes Ifit1*

Jennifer L. Hyde¹, Christina L. Gardner², Taishi Kimura³, James P. White¹, Gai Liu⁵, Derek W. Trobaugh², Cheng Huang⁴, Marco Tonelli⁶, Slobodan Paessler⁴, Kiyoshi Takeda³, William B. Klimstra², Gaya K. Amarasinghe⁵, Michael S. Diamond^{1,5,7}; ¹Department of Medicine, Washington University School of Medicine in St. Louis; ²Department of Microbiology and Molecular Genetics, Center for Vaccine Research, University of Pittsburgh, Pittsburgh; ³Laboratory of Immune Regulation, Graduate School of Medicine, Osaka University, Osaka, Japan; ⁴Department of Pathology, University of Texas Medical Branch at Galveston, Galveston, TX; ⁵Department of Pathology and Immunology, Washington University School of Medicine in St. Louis; ⁶National Magnetic Resonance Facility at Madison, University of Wisconsin, Madison, WI; ⁷Department of Molecular Microbiology, Washington University School of Medicine in St. Louis

#11 *Enterotoxigenic Escherichia coli Soluble Etpa Adhesin Serves as a Novel Molecular Bridge Between Bacterial Flagella and Intestinal Mucins*

Pardeep Kumar¹ and James M. Fleckenstein^{1,2,3}; Department of Internal Medicine, Division of Infectious Diseases¹ and the Molecular Microbiology and Microbial Pathogenesis Program², Washington University School of Medicine, St. Louis, Missouri, USA; Infectious Disease Section, Medicine Service, John Cochran Veterans Affairs Medical Center, St. Louis, Missouri³

#12 *Intraspecific Genetic Variation in the Species Onchocerca volvulus - The Causative Agent of River Blindness*

Rahul Tyagi¹, Samantha McNulty¹, Thomas R. Unnasch², Gary Weil³, Peter Fischer³ and Makedonka Mitreva^{1,3}; ¹The Genome Institute, Washington University School of Medicine in St. Louis; ²Global Health Infectious Disease Research, Department of Global Health, University of South Florida, Tampa, FL; ³Division of Infectious Diseases, Department of Internal Medicine, Washington University School of Medicine in St. Louis

#13 *The Challenges of Establishing a Clinical Laboratory in Jimani, Dominican Republic*

Craig B. Wilen¹ and Sarah M. Brown¹, Department of Pathology and Immunology, Washington University School of Medicine

#14 *Loneliness and Self-Esteem of Migrant and Local Children in Wuhan, China*

Lingzi Luo¹, BS, Chunmei Zhang², PhD; Washington University in St. Louis¹, Wuhan University²

#15 *Quantitative Evidence of Avian Influenza A(H7N9) Epidemiology: A Literature Review*

Braydon Schaible¹, Varadan Sevilimedu¹, Isaac Chun-Hai Fung², Manoj Gambhir³; ¹Georgia Southern University, Jiang-Ping Hsu College of Public Health, Department of Biostatistics; ²Assistant Professor of Epidemiology, Georgia Southern University, Jiang-Ping Hsu College of Public Health; ³Associate Professor of Epidemiology and Demography, Monash University, Melbourne, Australia

#16 *A Review of Foodborne Illness Outbreaks in Georgia, USA, 1993-2011.*

Jessica K. Sexton⁽¹⁾, Asli Aslan⁽²⁾, Isaac Chun-Hai Fung⁽¹⁾; ⁽¹⁾Department of Epidemiology and ⁽²⁾Department of Environmental Health Science, Jiang-Ping Hsu College of Public Health, Georgia Southern University, Statesboro, GA

#17 *Highly Conserved Type 1 Fimbriae Promote Enterotoxigenic Escherichia coli (ETEC) Adhesion And Enterotoxin Delivery*

Alaullah Sheikh¹, Rita Kansal², Nabilah Ibnat³, Yasmin Ara Begum³, Jerome S Pinkner^{1,4}, Scott J Hultgren^{1,4}, Firdausi Qadri³, and James M Fleckenstein^{1,5,6}; Molecular Microbiology and Microbial Pathogenesis Program, Division of Biology and Biomedical Sciences¹, Washington University in St. Louis; Research Service, Veterans Affairs Medical Center, Memphis, TN²; International Centre for Diarrhoeal Disease Research, Bangladesh³; Center for Women's Infectious Disease Research⁴, and the Department of Medicine⁵, Washington University School of Medicine in St. Louis; Medicine Service, Veterans Affairs Medical Center⁶, St. Louis

#18 *Maternal Nutritional Supplementation in the Shada Slum of Cap Haitien, Haiti*

Rachel Smidt, Brown School, Washington University in St. Louis

2nd Annual Global Health and Infectious Disease Conference

Friday March 28, 2014, 1:00 – 2:00 pm

EPNEC Atrium & Great Room A

#19 *Stimulating Acupuncture Point LI4 With Magnets Reduced Fever, Headache, and Sore Throat*

Key Sun, Brown School, Washington University in St. Louis

#20 *Psychosocial Determinants of Influenza Vaccine Acceptance Among College Students in Statesboro, Georgia*

Pei-Ling Tseng, Georgia Southern University; Levi Ross, Georgia Southern University; Isaac Chun-Hai Fung, Georgia Southern University

#21 *A Gnotobiotic Mouse Model of Childhood Undernutrition in Bangladesh*

Vitas E. Wagner¹, Janaki Guruge¹, Jiye Cheng¹, Sathish Subramanian¹, Tahmeed Ahmed², Rashidul Haque², and Jeffrey I. Gordon¹; Center for Genome Sciences and Systems Biology, Washington University in St. Louis¹; International Center for Diarrheal Disease Research Bangladesh, Dhaka, Bangladesh²

#22 *Children Living with HIV*

Colleen Walsh Lang, Department of Anthropology and School of Medicine, Washington University in St. Louis

#23 *Replication and Pathogenesis of Reassortant Avian Origin Influenza A viruses*

Graham Williams² and Jacco Boon¹; Washington University in St. Louis, ¹Department of Medicine, Molecular Microbiology and Pathology and Immunology, Division of Infectious Diseases; ²Division of Biology and Biomedical Sciences, Molecular Microbiology and Microbial Pathogenesis

#24 *Mathematical Modeling of Typhoid Fever: A Historical Perspective*

Iurii Bakach⁽¹⁾, Isaac Chun-Hai Fung⁽²⁾, ⁽¹⁾Department of Mathematics, College of Science and Mathematics, Georgia Southern University; ⁽²⁾Department of Epidemiology, Jiann-Ping Hsu College of Public Health, Georgia Southern University

#25 *Handwashing Promotion in Chinese Social Media: A Case Study of Global Handwashing Day 2012*

Isaac Chun-Hai Fung, Georgia Southern University; Jingxian Cai, Georgia Southern University; Yi Hao, Georgia Southern University; Yuchen Ying, University of Georgia; King-Wa Fu, University of HongKong; Zion Tsz-Ho Tse, University of Georgia

#26 *Chinese Social Media Reaction to the MERS-CoV and Avian Influenza A(H7N9) Outbreaks*

Isaac Chun-Hai Fung¹, King-Wa Fu², Yuchen Ying³, Braydon Schaible¹, Yi Hao¹, Chung-Hong Chan² and Zion Tsz-Ho Tse³; Georgia Southern University¹; The University of Hong Kong²; The University of Georgia³

#27 *Gatekeeping: Metal Selectivity by the Yersiniabactin Siderophore System in Uropathogenic Escherichia coli*

Eun-Ik Koh¹⁻³, Chia S Hung¹⁻³, Jan R Crowley³, Jeffrey P Henderson¹⁻³; ¹Center for Women's Infectious Diseases Research, Washington University School of Medicine in St. Louis; ²Division of Infectious Diseases, Washington University School of Medicine in St. Louis; ³Department of Internal Medicine, Washington University School of Medicine in St. Louis

#28 *Helminth Antigen-Driven Impairment of Th1 Responses in Tuberculosis*

Leticia Monin^{1,6}, Radha Gopal¹, Dongwan D. Kang^{2,3}, Javier Rangel-Moreno⁴, Jay Kolls¹, Edward Pearce⁵ & Shabaana Khader⁶; ¹Richard King Mellon Foundation Institute for Pediatric Research, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, ²Department of Energy, Joint Genome Institute, Walnut Creek, CA Genomics Division, Lawrence Berkeley National Laboratory, Berkeley, CA, ⁴Department of Medicine, Division of Allergy, Immunology and Rheumatology, University of Rochester Medical Center, Rochester, NY, ⁵Division of Immunobiology, Department of Pathology and Immunology, Washington University School of Medicine in St. Louis, ⁶Department of Molecular Microbiology, Washington University School of Medicine in St. Louis

2nd Annual Global Health and Infectious Disease Conference

Friday March 28, 2014, 1:00 – 2:00 pm

EPNEC Atrium & Great Room A

#29 *Molecular Insights into Recurrent Urinary Tract Infection: Elucidating the Pathogenesis of Acute Cystitis in the Non-Naive Host*

Valerie P. O'Brien¹, Thomas J. Hannan², Drew J. Schwartz¹, Amanda L. Lewis¹, Scott J. Hultgren¹; ¹Department of Molecular Microbiology and Center for Women's Infectious Disease Research, Washington University School of Medicine; ²Department of Pathology and Immunology, Washington University School of Medicine

#30 *ATG16L1 Regulates Host Defense to Uropathogenic Escherichia coli Infection by Controlling Macrophage-Mediated Bacterial Clearance*

Jane Symington¹, Caihong Wang¹, Nana Owusu-Boaitey¹, Indira Mysorekar^{1,2}; Departments of Obstetrics & Gynecology¹, Pathology & Immunology², Washington University in St. Louis

#31 *The Resistome of an Antibiotic-Naive Amerindian Community*

Erica C Pehrsson⁽¹⁾, Jose C Clemente, Bin Wang, Zhan Gao⁽³⁾, Rob Knight^(2,5), Maria Gloria Dominguez-Bello^(3,4), Gautam Dantas⁽¹⁾; ⁽¹⁾Washington University in St. Louis; ⁽²⁾University of Colorado, Boulder; ⁽³⁾New York University; ⁽⁴⁾University of Puerto Rico; ⁽⁵⁾Howard Hughes Medical Institute

#32 *Identifying Patterns of HIV and TB Among Inpatient and Outpatient Population in Haiti*

Marie Denis Luque¹, Kripa Regmi³, Isaac Chun-Hai Fung²; Georgia Southern University^{1,2,3}

#33 *Saving Babies in St. Vincent and the Grenadines: Designing a Quality Improvement and Capacity Building Effort at the Milton Cato NICU*

Shahida Rice⁽¹⁾, Keith Elder⁽¹⁾, Katy Frankel⁽²⁾, Robert Fleming⁽³⁾, Lauren Davis⁽²⁾; Department of Health Management and Policy, Saint Louis University College for Public Health & Social Justice⁽¹⁾; World Pediatric Project⁽²⁾; Saint Louis University School of Medicine⁽³⁾

#34 *Congenital Heart Surgery Outcomes at a Guatemalan Surgical Center*

Benzoni, Nicole; Mazate, Elizabeth, MD¹; Barnoya, Joaquin, MD, MPH²; Unidad de Cirugia Cardiovascular Pediatrica de Guatemala¹; Washington University School of Medicine, Institute of Public Health²

#35 *Predictors of Stunting in Honduras: Structural v. Behavioral*

Kate Clitheroe; Master of Public Health Student at the Brown School at Washington University in St. Louis

#36 *Morphological & Genetic Characterization of Triatomine: Vectors of Chagas Disease in Texas*

Heather Frady¹, Rachel Curtis², Sarah Hamer³, Gabriel Hamer⁴; Department of Biology, Eastern Washington University¹, Department of Entomology, Texas A&M University^{1,4}; Department of Veterinary Integrative Biosciences Texas A&M University^{2,3}

#37 *Molecular Phylogenetic Analysis of Novel Non-Sexually Transmitted Strains of Haemophilus ducreyi*

Jordan R. Gaston, Tricia L. Humphreys; Allegheny College

#38 *Vaccine-Induced Protection Against HSV-2 Is Mediated by a Polyclonal Immune Response Towards Many Viral Proteins*

Joshua J. Geltz and William P. Halford; Department of Medical Microbiology, Immunology, Cell Biology, Southern Illinois University School of Medicine, Springfield, IL

#39 *Autophagy Induction Promotes Uropathogenic Escherichia coli to Persist in the Urinary Tract*

Amanda Harris¹, Caihong Wang¹, and Indira U. Mysorekar^{1,2}; Departments of Obstetrics and Gynecology¹ and Pathology and Immunology², Washington University School of Medicine in St. Louis

2nd Annual Global Health and Infectious Disease Conference

Friday March 28, 2014, 1:00 – 2:00 pm

EPNEC Atrium & Great Room A

#40 Anthropological Perspectives on Human Prion Diseases and the Ethics of Transnational Epidemiological Research: A Review of Literature

Tobeya Ibitayo¹, Arthur Aung^{1,2}, Alex Tinianow²; ¹Department of Anthropology, ²Department of Biology, Washington University in St. Louis

#41 Contextualizing Malnutrition in Poor Mothers in Hyderabad: Suggestions for Future Research

Amrutha Kumaran, Bachelor of Arts Candidate at Washington University in St. Louis

#42 The Effectiveness of Corticosteroids on Tuberculous meningitis (TBM) in HIV-Positive Adults

Angela Murro, MPH¹ and Isaac Chun-Hai Fung, PhD²; ¹Department of Biostatistics, Jiann-Ping Hsu College of Public Health, Georgia Southern University and ²Department of Epidemiology, Jiann-Ping Hsu College of Public Health, Georgia Southern University

#43 Transgenic Expression of CXCR3 Worsens the Inadequate Response to L. major Parasites by BALBc Mice

Abhay Satoskar, Steve Oghumu, Sanjay Varikuti and James Stock, The Ohio State University

#44 Autophagy Stimulation via Ifn-γ Treatment Promotes Clearance of Burkholderia cenocepacia Infected Human Cystic Fibrosis Macrophages

Kaivon D. Assani¹, Amal Amer³ and Benjamin Kopp^{1,2}; ¹Center for Microbial Pathogenesis, The Research Institute at Nationwide Children's Hospital, Columbus, OH; ²Section of Pediatric Pulmonology, Nationwide Children's Hospital, Columbus, OH; ³Department of Microbial Infection and Immunity and the Department of Internal Medicine, The Ohio State University, Columbus, OH

#45 Restriction of Flaviviruses in Insects

James D. Brien¹, Sherri L Hannah⁴, Irma Sanchez-Vargas⁵, Greg D Ebel⁵, Sara Cherry⁴, and Michael S Diamond^{1,2,3}; Departments of Medicine¹, Pathology & Immunology², Molecular Microbiology³, Washington University School of Medicine, St. Louis. Department of Microbiology⁴, University of Pennsylvania, Philadelphia. Department of Microbiology, Immunology & Pathology⁵, College of Veterinary Medicine & Biomedical Sciences, Colorado State University

#46 Chinese Social Media Reaction to News About 39 Notifiable Infectious Diseases

Isaac Chun-Hai Fung^{*1}, Yi Hao^{†2}, Braydon J. Schaible^{†2}, Jingxian Cai^{†2}, Yuchen Ying³, Zion Tsz-Ho Tse^{†4}, King-Wa Fu^{‡5} Department of Epidemiology¹ and Department of Biostatistics², Jiann-Ping Hsu College of Public Health, Georgia Southern University; Department of Computer Science³ and College of Engineering⁴, The University of Georgia; Journalism and Media Studies Center, The University of Hong Kong⁵. * Corresponding author † Contributed equally ‡ Joint senior authors

#47 Functional Differentiation of the Ascaris suum Intestine Revealed by Gene Expression Profiling

Xin Gao¹, Bruce Rosa¹, Douglas P. Jasmer², Makedonka Mitreva^{1,3}; ¹The Genome Institute, Washington University in St Louis; ²Department of Veterinary Microbiology and Pathology, Washington State University, Pullman, WA; ³Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine in St. Louis

#48 Rehabilitation for Obstetric Fistula: Case Reports that Exemplify Intervention Needs

¹**Campbell Mikush**, OTD, OTRL ²Theresa Monaco Spitznagle, PT DPT MHS WCS ¹Washington University Program in Occupational Therapy ²Washington University Program in Physical Therapy

2nd Annual Global Health and Infectious Disease Conference

Friday March 28, 2014, 1:00 – 2:00 pm

EPNEC Atrium & Great Room A

#49 *A Loss of Type I IFN Signaling Results in a MAVS-Dependent Induction of Cytokine Storm, Complement Activation, and Sepsis after Viral Infection*

Amelia K. Pinto¹, Hilario J. Ramos⁴, Xiaobo Wu¹, Shilpa Aggarwal⁴, Bimmi Shrestha¹, Matthew Gorman², Kristin Y. Kim⁵, Mehul S. Suthar⁵, John P. Atkinson^{1,2,3}, Michael Gale, Jr.⁴, and Michael S. Diamond^{1,2,3}; Departments of Medicine¹, Pathology & Immunology², and Molecular Microbiology³, Washington University School of Medicine in St Louis; Department of Immunology⁴, University of Washington School of Medicine, Seattle, WA; ⁵Department of Pediatrics, Emory Vaccine Center, Children's Healthcare of Atlanta, Emory University, Atlanta, GA

#50 *Environmental Pathogenicity and Human Milk Immune Responses: Evidence from Two Countries (Philippines and Tibetans in Nepal)*

EA Quinn¹, G Childs¹, K McKinley¹, J Anderson¹, J Onugha¹, C Freeman¹, M Chernoff¹, J Borja², M Power^{3,4}; ¹Department of Anthropology, Washington University in St. Louis; ²Office of Population Studies, University of San Carlos, Philippines; ³Smithsonian Conservation Biology Institute, Nutrition Laboratory and Conservation Ecology Center, National Zoological Park, Washington DC; ⁴Research Department, American College of Obstetricians and Gynecologists, Washington DC

#51 *Estrogenic Modulation of Urinary Tract Infection in a Murine Menopausal Model*

Caihong Wang¹, Jane W. Symington¹, Emily Ma¹, Bin Cao¹, and Indira U. Mysorekar^{1,2}; Departments of ¹Obstetrics and Gynecology, ²Pathology and Immunology, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO

#52 *Application of Genomic and Metagenomic Approaches in Infectious Diseases*

Yanjiao Zhou¹ and Makedonka Mitreva^{2,3} on behalf of the St. Louis Microbiome team; ¹Division of Laboratory Medicine, Department of Pediatrics, Washington University School of Medicine ²The Genome Institute, Washington University School of Medicine ³Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine