VACCINES FOR ENTERIC DISEASES
16-18 October 2019, CHUV, University of Lausanne, Lausanne, Switzerland

FINAL ORAL & POSTER PROGRAMME
VED 2019

SCIENTIFIC ADVISORY PANEL

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Daniel Cohen (Tel Aviv University, Tel Aviv, Israel)
Martin Mengel (Global Health Consulting, Spain)
Jan Holmgren (Goteborg University, Goteborg, Sweden)
Fred Cassels (PATH, Washington DC, USA)
Shahida Baqar (NIAID/NIH, Bethesda, Maryland, USA)
Milton Maciel Jr (Henry M. Jackson Found./Naval Medical Research Center, Silver Spring, Maryland, USA)
Davinder Gill (Hilleman Laboratories, New Delhi, India)
K. Zaman (icddrb, Dhaka, Bangladesh)
Elizabeth Norton (Tulane University, New Orleans, Louisiana, USA)
SESSION 1: OPENING PLENARY SESSION

Moderator: Mike Levine (University of Maryland, Baltimore, Maryland, USA)

09.00-09.30 ‘How could licensure and impact of enteric vaccines be accelerated?’

Birgitte Giersing (WHO, Geneva, Switzerland)

09.30-10.00 ‘Enteric Vaccines the PATHway forward’

Fred Cassels (PATH, Washington DC, USA)

10.00-10.30 ‘The importance of vaccine herd protection in the oral cholera vaccine story’

John D. Clemens (icddr,b, Dhaka, Bangladesh)

10.30-11.00 Coffee Break & Poster Session Set-Up

SESSION 2: STANDARDISATION/BURDEN/SURVEILLANCE

Moderator: Fred Cassels (PATH, Washington DC, USA)

11.00-11.20 ‘Standardisation of new enteric vaccines’

Sjoerd Rijpkema1, Fang Gao1, Peter Rigby1, Jason Hockley1, Eleanor Atkinson3, Carolyn Swann2, Kay Lockyer1, Alastair Logan1 and Barbara Bolgiano1 (1 Division of Bacteriology, 2 Biostatistics and 3 Laboratory for Molecular Structure, National Institute for Biological Standards and Control, Potters Bar, Hertfordshire, UK)

11.20-11.40 ‘Etiology of diarrhea requiring hospitalization in children under 5: Results from the first two years of the WHO-coordinated Global Pediatric Diarrhea Surveillance network, 2017-2018’

James A. Platts-Mills1 on behalf of the WHO-coordinated Global Pediatric Diarrhea Surveillance (GDPS) network (1 Division of Infectious Diseases and International Health, University of Virginia, Charlottesville, Virginia, USA)

11.40-12.00 ‘Recent findings from the World Health Organization-coordinated Global Rotavirus Surveillance Network’

Adam Lauren Cohen (WHO, Geneva, Switzerland)

12.00-12.20 ‘Geographic variation in diarrhoea mortality and treatment in low- and middle-income countries, 2000-2017’

Kirsten Wiens (University of Washington, Seattle, Washington, USA)


Karen L. Koloff1,2, M. Jahangir Hossain1, Joquina Chiquita M. Jones1, Syed M.A. Zaman1, Martin Antonio1, Adama M. Keita1, Doh Sanogo1, Boubou Tamboura1, Samba O. Son1, Richard Omore1, John B. Ochieng3, Jennifer Verani3, Marc-Alain Widdowson1, Jacqueline Tates1, Umesh Parashar1, Dilruba Nasrin1, Anna Roose3, Irene Kasumbza1, William C. Blackwelder2, Helen Powel1,2, Milagritos Tapia1,2, Eric Houp4, James Platts-Mills4 and Sharon M. Tennant1 (1 Center for Vaccine Development and Global Health, University of Maryland School of Medicine, Baltimore, Maryland, USA; 2 Department of Pediatrics, University of Maryland School of Medicine, Baltimore, Maryland, USA; 3 Medical Research Council Unit The Gambia at the London School of Hygiene & Tropical Medicine, Banjul, The Gambia; 4 Centre pour le Développement des Vaccins du Mali (CVD-Mali), Bamako, Mali; 5 Kenya Medical Research Institute/Center for Global Health Research (KEMRI-CGHR), Kisumu, Kenya; 6 Division of Global Health Protection, Kenya Office of the US Centers for Disease Control and Prevention (CDC), Nairobi, Kenya; 7 Division of Viral Diseases, National Center for Immunization and Respiratory Diseases, CDC, Atlanta, Georgia, USA; 8 Division of Infectious Diseases and International Health, University of Virginia, Charlottesville, Virginia, USA)

SESSION 3: CLINICAL ETEC VACCINE TRIALS

Moderators: Ann-Mari Svennerholm (University of Gothenburg, Gothenburg, Sweden) and Lou Bourgeois (PATH, Washington DC, USA)

13.30-13.40 ‘Overview: ETEC vaccines in clinical trials (current or in planning)’

Lou Bourgeois (PATH, Washington DC, USA)

13.40-14.00 ‘Evaluation of the safety and immunogenicity of the oral inactivated enterotoxigenic Escherichia coli vaccine ETVAX in Bangladeshi children and infants in a double-blind, randomized, placebo-controlled Phase I/II trial’

Firdausi Qadri1, Taufiqur R. Bhuiyan1, Marjahan Akhtar2, Anna Lundgren2, Nils Carlén2, A. Louis Bourgeois4, Nicole Maier4, Alan Fix5, Thomas Wierzba4, Richard I. Walker4 and Ann-Mari Svennerholm2 (1 icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh; 2 GUVAX, Gothenburg University Vaccine Research Institute, Dept. of Microbiology and Immunology, Inst. of Biomedicine, University of Gothenburg, Sweden; 3 Scandinavian Biopharma, Solna, Sweden; 4 PATH, Washington, DC, USA)

14.00-14.20 ‘T cell responses induced by the oral inactivated ETEC vaccine ETVAX given with or without dMLLT adjuvant’

Anna Lundgren2, Marjahan Akhtar2, Joanna Kaim3, Ana Cardeno1, Firdausi Qadri2 and Ann-Mari Svennerholm2 (1 University of Gothenburg Vaccine Research Institute, Sahlgrenska Academy, Sweden; 2 icddr,b (International Centre for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh)
14.20-14.50
‘Evaluation of the oral etvax® vaccine against ETEC diarrhoea among finnish travellers to west-africa (oev-123 trial)’
Anu Kantele
(Meilahti Vaccination Research Center, MeVac, Helsinki University Hospital and University of Helsinki, Helsinki, Finland)

14.50-15.05
‘A Phase 1 dose-escalating study of a prototype CS6 subunit vaccine with a modified heat-labile enterotoxin from Enterotoxigenic Escherichia coli (ETEC)’
T.K. Lee1, C.K. Porter1, R.L. Gutierrez1, K. Jaep1,2, S.T. Poole1,2, A.B. Lane3, M. Harner4, A.D. Vazquez5, M.S. Riddle5, M. Maciel Jr.1,2, K.E. Dori7, L. Yang4, A.N. Alcala1,2, D.R. Tribble6, R. Erdem6, N. Maier6, A.L. Bourgeois6 and M.G. Prouty1
(1 Naval Medical Research Center, Silver Spring, Maryland, USA; 2 Henry M. Jackson Foundation, Bethesda, Maryland, USA; 3 Walter Reed National Military Medical Center, Bethesda, Maryland, USA; 4 Walter Reed Army Institute of Research, Silver Spring, Maryland, USA; 5 Uniformed Services University of the Health Sciences, Bethesda, Maryland; 6 PATH, Washington, D.C., USA)

15.05-15.20
‘Serological and α4β7+ antibody-secreting cell responses after intramuscular immunization with CssBA, a CS6-subunit based enterotoxigenic E. coli vaccine candidate, and LT(R192G/L211A) as adjuvant’
Milton Maciel Jr.1,2, Stefanie Trop1,2, Aaron Kim1,2, Elizabeth Ward1,2, Zuzana Villar1,2, Tida K. Lee2, kayla Jaep1,2, Chad Porter2, Steven Poole1,2 and Michael G. Prouty2
(1 Henry M. Jackson Foundation, Bethesda, Maryland, USA; 2 Naval Medical Research Center, Silver Spring, Maryland, USA)

15.20-15.40
General Discussion on Clinical Trials

15.40-16.00
Tea Break & Poster Session

SESSION 4: ENTERIC VACCINES FRONTEIRS

Moderators: Kevin Killeen (Matrivax Inc., Boston, Massachusetts, USA) and Elizabeth Norton (Tulane University, New Orleans, Louisiana, USA)

16.00-16.20
‘Update on CVD vaccines to prevent invasive Salmonella disease’
M. Levine
(University of Maryland, Baltimore, Maryland, USA)

16.20-16.40
‘Overview: Mucosal vaccines and adjuvants for enteric infections’
Jan Holmgren
(University of Gothenburg, Gothenburg, Sweden)

16.40-17.00
‘Bimodal prophylactic and therapeutic vaccine candidate targeting C. difficile infection and relapse’
Kevin Killeen
(Matrivax Inc., Boston, Massachusetts, USA)

17.00-17.20
‘Determination of mucosal immune responses against an oral ETEC vaccine in infants’
Ann-Mari Svennerholm1, Anna Lundgren1, Marjahan Akhtar2, Richard Walker1, Lou Bourgeois3 and Firdausi Qadri2
(1 University of Gothenburg, Gothenburg, Sweden; 2 Infectious Diseases Division, icdtr.b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh; 3 PATH, Washington, DC, USA)
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SESSION 5: IMMUNITY & MECHANISMS
Moderator: Milton Maciel Jr. (NMRC, Silver Spring, Maryland, USA)

09.00-09.20
‘Estimates of protection from natural immunity against enteric infections and etiology-specific diarrhea in a longitudinal birth cohort’
Elizabeth T. Rogawski McQuade, Jie Liu, Aldo A.M. Lima, Gagandeep Kang, Amidou Samie, Rashidul Haque, Estomih R. Mduma, Margaret N. Kosek, Jose Paulo Leite, Ladaporn Bodhidatta, Najeeha Iqbal, Nicola Page, Ireen Kiwelu, Zulfiqar Bhutta, Tahmeed Ahmed, Eric R. Houpt and James A. Platts-Mills (Division of Infectious Diseases and International Health, University of Virginia, Charlottesville, Virginia, USA)

09.20-09.40
‘dmLT Adjuvant: Mechanistic insight from omics analyses and polio vaccination’
Elizabeth Norton (Tulane University, New Orleans, Louisiana, USA)

09.40-10.00
‘Within-host infection dynamics and immunity to invasive bacterial diseases to inform vaccine design’
Pietro Mastroeni (University of Cambridge, Cambridge, UK)

10.00-10.20
‘Antibody-mediated selective targeting to gut epithelial aminopeptidase N triggers small intestinal immunity’
Raquel Sanz Garcia1, Shruti Bakshi2,3, Hans Van der Woude1, Ann Depicker1,2,3, Eric Cox4 and Bert Devriendt1
(1 Laboratory of Immunology, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium; 2 Department of Plant Biotechnology and Bioinformatics, Ghent University, Gent, Belgium; 3 VIB Center for Plant Systems Biology, Ghent, Belgium)

10.20-10.40
‘Yeast-secreted monomeric IgA prevents ETEC infection in a piglet model’
Vikram Virdi1,2,3,4, Jorge Palaci3,4, Bram Laukens1,2, Stefan Rykaert1,2, Eric Cox5, Erik Vanderbeke6, Ann Depicker3,4 and Nico Callewaert1,2
(1 Department of Biochemistry and Microbiology, Ghent University, Gent, Belgium; 2 VIB Center for Medical Biotechnology, Gent, Belgium; 3 Department of Plant Biotechnology and Bioinformatics, Ghent University, Gent, Belgium; 4 VIB Center for Plant Systems Biology, Gent, Belgium; 5 Laboratory of Immunology, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium; 6 AVEVE Biochem, AVEVE Group, Leuven, Belgium)

10.40-11.20
Coffee Break & Poster Session

SESSION 6: NOROVIRUS VACCINES
Moderator: Jan Holmgren (University of Gothenburg, Gothenburg, Sweden)

11.20-11.40
‘The economic burden of Norovirus Gastroenteritis in the United States and the potential for a vaccine’
Bruce Y. Lee (Johns Hopkins Bloomberg School of Public Health, Johns Hopkins Carey Business School, Global Obesity Prevention Center (GOPC), Baltimore, Maryland, USA)

11.40-12.00
‘Norovirus Vaccines Progress Overview’
Nicolas Noulin (MVV0 Ltd, London, UK)

12.00-12.20
‘Progress on the development of an oral, bivalent norovirus vaccine’
David Taylor (Vaxart Inc., South San Francisco, California, USA)

12.20-12.40
‘Efficacy of an intramuscular bivalent norovirus gi.1/gii.4 virus-like particle vaccine candidate in healthy us adults’
Taisel Masuda (Takeda Pharmaceuticals International AG, Glattpark-Opfikon (Zurich), Switzerland)

12.40-13.00
‘Risk of post-infectious functional gastrointestinal disorders and gastroesophageal reflux disease following norovirus outbreaks at a naval recruit training facility’
Kayla M. Jaep1, Kawsar R. Talaat2, Mark S. Riddle1, Ramiro L. Gutierrez1 and Chad K. Porter1
(1 Enteres Diseases Department, Naval Medical Research Center, Silver Spring, Maryland, USA; 2 Johns Hopkins University, Baltimore, Maryland, USA; 3 Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA)

13.00-13.40
Lunch Break & Poster Session

SESSION 7: SPECIAL SESSION – CAMPYLOBACTER JEJUNI
Moderator: Shahida Baqar (NIAID/NIH, Bethesda, Maryland, USA)

13.40-14.00
‘Development of a capsule conjugate vaccine against Campylobacter jejuni: Past, present and future’
Frédéric Poly1, Renee M. Laird2,3, Mario A. Monteiro1, Chad Porter1 and Patricia Guerry1
(1 Naval Medical Research Center, Silver Spring, Maryland, USA; 2 Henry M. Jackson Foundation, Bethesda, Maryland, USA; 3 University of Guelph, Guelph, Ontario, Canada)

14.00-14.20
‘Enhanced immunogenicity and protective efficacy of a Campylobacter jejuni conjugate vaccine coadministered with liposomes containing monophosphoryl lipid A and QS-21 in Aotus nancymae non-human primates’
Renée M. Laird1,2, Amritha Ramakrishnan1, Nina M. Schumack1,2, Gladys Nunez2, Nereyda Espinoza1, Monica Nieto1, Rosa Castillio1, Jesus Rojas3, Andrea J. McCoy4, Zoltan Beck4, Gary R. Matyas4, Carl R. Alving4, Patricia Guerry2 and Frédéric Poly1
(1 Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, Maryland, USA; 2 Entères Diseases Department, Naval Medical
Research Center, Silver Spring, Maryland, USA; 2 Bacteriology Department, U.S. Naval Medical Research Unit No. 6, Callao, Peru; 3 U.S. Military HIV Research Program, Walter Reed Army Institute of Research, Silver Spring, Maryland, USA)

14.20-14.40
‘Campylobacter jejuni’ capsule type distribution in low and middle-income countries’
Tegan N. Clarke1,2, Chad Porter1 and Frédéric Poly1
(1 Enteric Diseases Department, Naval Medical Research Center, Silver Spring, Maryland, USA; 2 Henry M. Jackson Foundation, Bethesda, Maryland, USA)

14.40-15.00
‘A glycoconjugate vaccine to reduce Campylobacter jejuni’
Harald Nothaft1,2 and Christine M. Szymanski1,3
(1 VaxAlta Inc., Edmonton, Canada; 2 University of Alberta, Department of Medical Microbiology and Immunology, Edmonton, Canada; 3 University of Georgia, Department of Microbiology and Complex Carbohydrate Research Center, Athens, Georgia, USA)

15.00-15.20
‘Development of a multivalent, multipathogen conjugate vaccine platform for protection against three major enteric pathogens Campylobacter jejuni, Enterotoxigenic Escherichia coli and Shigella’
Renee M. Laird1,2, Milton Maciel Jr.1,2, Steven T. Poole1,2, Michael G. Prouty2, Stephen J. Savarino1, Mario A. Monteiro3, Patricia Guerry2 and Frédéric Poly2
(1 Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, Maryland, USA; 2 Enteric Diseases Department, Naval Medical Research Center, Silver Spring, Maryland, USA; 3 Department of Chemistry, University of Guelph, Guelph, Ontario, Canada)

15.20-15.40
Tea Break & Poster Session

SESSION 8: SHIGELLA

Moderators: Armelle Phalipon (Pasteur Institute, Paris, France) and Daniel Cohen (Tel Aviv University, Tel Aviv, Israel)

15.40-16.00
‘Immunoprophylactic efficacy of hyperimmune bovine colostrum (HBC) for shigellosis in rhesus macaques’
Dilara Islam1, Nattaya Ruamsap1, Rawiwan Imerbsin1, Jerry Kanellos2, Brett E. Swierczewski1, Robert W. Kaminski3 and Veronica Gambillara3
(1 Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand; 2 Immuron, Blackburn, Australia; 3 Walter Reed Army Institute of Research (WRAIR), Silver Spring, Maryland, USA)

16.00-16.20
‘An advanuted approach to oral vaccination against shigellosis using a killed whole cell vaccine’
Tarun Sharma1, Neeraj Joshi1, Ashwani Kumar Mandal2, Nidhi Shukla2, Shushruta Bhunia1, Anoop Kumar1, Khalid Ali Syed1, Hemanta Koley2, Shanta Dutta2 and Davinder Gill3
(1 MSD Wellcome Trust Hilleman Laboratories Pvt. Ltd. New Delhi, India; 2 NICE, National Institute of Cholera and Enteric Disease, Kolkata, India)

16.20-16.40
‘Estimating a threshold level of serum IgG anti-S. sonnei LPS associated with protection against S. sonnei shigellosis’
Daniel Cohen1, Shiri Meron-Sudai1, Anya Bialik1, Valeria Asato1, Sophy Goreni2, Ortal Ariel-Cohen1, Arava Reizis1, Amit Hochberg1 and Shai Ashkenazi3
(1 School of Public Health, Sackler Faculty of Medicine, Tel Aviv University; 2 Hillel Yaffe Medical Center, 3 Adelson School of Medicine, Ariel University, and Schneider Children’s Medical Center, Israel)

16.40-17.00
‘GMP manufacture, characterization and clinical evaluation of Shigella flexneri 2a detoxified artificial invaplex’
K.A. Clarkson1, R. Gutierrez2, K.R. Turbyfill3, K. Detizio1, A.R. Vorderm1, A. Lyen1, B. Barnard1, H. Weerts1, C. K. Porter1, N. Maier3, R. Erdem3, A. L. Bourgeois1 and R.W. Kaminski1
(1 Subunit Enteric Vaccines and Immunology, Bacterial Diseases Branch, Walter Reed Army Institute of Research, Silver Spring, Maryland, USA; 2 Naval Medical Research Center, Silver Spring, Maryland, USA; 3 PATH, Washington DC, USA)

17.00-17.20
‘Shigella vaccine based on GMMA-technology: Inducing high level, persistent and boostable antibody responses in human populations’
L.B. Martin, A.G.W. Ndiaye, A. Podda and A. Saul
(GSK Vaccines Institute for Global Health, Siena, Italy)

17.20-17.40
‘Development of a Shigella multivalent bioconjugate vaccine: Toward a phase 1/2 in Kenyan infants’
Cristina Alaimo1, Patricia Martin1, Dominique Sirena2, Mainga Hamaluba2, Josphat Kosgei2, Robert W. Kaminski3 and Veronica Gambillara3
(1 LimmaTech Biologics AG, Schlieren, Switzerland; 2 KEMRI-CGMRC, Kilifi, Kenya; 3 KEMRI-USAMRD-K, Kencho, Kenya; 4 Walter Reed Army Institute of Research, SEVI, Silver Spring, Maryland, USA)

17.40-17.50
Session Discussion
SESSION 9: CHOLERA

Moderators: David Sack (Johns Hopkins University, Baltimore, Maryland, USA)
09.00-09.30
‘Contrasting cholera epidemiology between Africa and Asia: Implications for vaccination strategies’
David Sack (Johns Hopkins University, Baltimore, Maryland, USA)
09.30-10.00
‘Hill chol-B: A novel dry-formulation, heat-stable, low-cost enterococcal single-strain B-subunit oral cholera vaccine’
10.00-10.20
‘Effect of extended dose intervals on immune response to oral cholera vaccine in Zambia’
John Mwaba1*, Caroline Cleopatra Chisenga1, Patrick Shea2, David Bak1, Mona Tolba1, Marya Carmolli1, Mami Taniuchi4, Rashidul Haque2, Firdausi Qadri2, Beth D. Kirkpatrick 1 and Benjamin Lee1
10.40-11.00
‘Vibrio cholerae transmission in Bangladesh: Insights from a national serosurvey’
Andrew S. Azman1, Justin Lessler1, Daniel Leung1, Francisco J. Luquero2, Jason Harris1, Stephen Lauer1, Fatema Khaton3, Jannatul Ferdous3, Kishor Kumar Paul4, Taufiqur Bhuiyan5, Henrik Salje6,1 and Emily S. Gurley7
(1 Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA; 2 Epicentre, Geneva, Switzerland; 3 University of Utah School of Medicine, Salt Lake City, Utah, USA; 4 Massachusetts General Hospital, Boston, Massachusetts, USA; 5 icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh; 6 Institut Pasteur, Paris, France)
11.00-11.20
‘The association between Helicobacter pylori infection and the immune response to CVD 103-HGL oral cholera vaccine’
Khitham Muhseni1, Samba O. Sow1,2, Millagritos D. Tapia2,3, Mardi Reymann2, Marcela F. Pasetti2 and Myron M. Levine2
(1 Department of Epidemiology and Preventive Medicine, School of Public Health, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; 2 Centre pour le Développement des Vaccins, Bamako, Mali; 3 Center for Vaccine Development and Institute for Global Health, University of Maryland School of Medicine, Baltimore, Maryland, USA)
11.40-11.50
Coffee Break & Posters Breakdown

SESSION 10: ROTAVIRUS VACCINES

Moderators: K. Zaman (icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh) and Bernd Benninghoff (GSK, Wavre, Belgium)
11.20-11.50
‘Rotavirus vaccine: From development to global use’
K. Zaman (icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh)
11.50-12.20
‘Success story of human rotavirus vaccine: Lessons learned’
Bernd Benninghoff (GSK, Wavre, Belgium)
12.20-13.00
Lunch Break

SESSION 10 CONTINUED

13.00-13.20
‘Evidence of genotype independent protection against rotavirus disease in long term follow up of rotavirus vaccination’
Maria Hemming-Harlo, Jukka Markkula and Timo Vesikari (Tampere University, Tampere, Finland)
13.20-13.40
‘Rotavirus vaccine effectiveness against all-cause diarrhea and antimicrobial consumption in low- and middle-income countries: A case-control analysis and vaccine probe study’
Joseph A. Lewnard1*, Nathan C. Lo1,3, Nimalan Arinaminpathy4, Isabel Frost4 and Ramanan Laxminarayan1,5,6
(1 Division of Epidemiology, University of California, Berkeley School of Public Health, Berkeley, California, USA; 2 Division of Epidemiology, Stanford University School of Medicine, Stanford, California, USA; 3 Department of Medicine, University of California, San Francisco, San Francisco, California, USA; 4 School of Public Health, Imperial College, London, London, UK; 5 Center for Disease Dynamics, Economics & Policy, New Delhi, India; 6 Princeton Environmental Institute, Princeton University, Princeton, New Jersey)
13.40-14.00
‘The effects of increased inoculum on oral rotavirus vaccine take and immunogenicity among infants in Dhaka, Bangladesh’
Benjamin Lee1, Dorothy Dickson2, Masud Alum2, Sajia Afreen2, Abdul Kader2, Faria Afrin3, Tania Ferdous4, Christina Damon5, Soyeon Kim5, Monica McNeal6, Daniel Bak7, Mona Tolba1, Marya Carmolli1, Mami Taniuchi4, Rashidul Haque5 and Beth D. Kirkpatrick1
(1 University of Vermont; Burlington, Vermont, USA; 2 icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh; 3 Cincinnati Children’s Hospital Medical Center; Cincinnati, Ohio, USA; 4 University of Virginia, Charlottesville, Virginia, USA)
14.00-14.20
‘Maternal secretor status affects oral rotavirus vaccine response in breastfed infants in Bangladesh’
Frank B. Williams1, Abdul Kader2, Dorothy M. Dickson1, E. Ross Colgate1, Muhammad Ikhteer Uddin2, Salma Sharmin2, Shahidul Islam2, Taufiqur Rahman Bhuiyan3, Masud Alam1, Uma Nayak4, Josyf C. Mychaleckyj3, William A. Petri Jr.3, Rashidul Haque4, Firdausi Qadri3, Beth D. Kirkpatrick1 and Benjamin Lee1
(1 University of Vermont; Burlington, Vermont, USA; 2 icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh; 3 University of Virginia; Charlottesville, Virginia, USA)
14.20
Closing Remarks & Departure
Poster 101
'Molecular lipopolysaccharide enteric vaccines: From development to clinical application'
Vladimir A. Ledov1, Marina E. Golovina1, Anna A. Markina1, Yuri A. Knitel1, Vyacheslav L. Lyon1, Alexander L. Kovalchuk2 and Petr G. Aparin1
(1) National Center-Institute of Immunology, Federal Medical Biological Agency of Russia, Moscow, Russia; 2 The Virology and Cellular Immunology Section, Laboratory of Immunogenetics, National Institute of Allergy and Infectious Diseases, NIH, Rockville, Maryland, USA; 3 N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Moscow, Russia)

Poster 102
'ClinEpiDB: The clinical epidemiology database resource'
Cristina Aurrecoechea1, Brian P. Brunke1, Danielle Callan1, Dave Falke2, Steve Fischer1, Danica Heib1, Jay Humphrey2, John Judkins1, Jessica C. Kissinger2, Brianna Lindsay1, David S. Roos1, Sheena Shah Tomko1, Christian J. Stoeckert Jr1 and Jie Zheng1
(1) University of Pennsylvania, Philadelphia, Pennsylvania, USA; 2 University of Georgia, Athens, Georgia, USA)

Poster 103
'Superior breadth of secretory IgA response by apryrase expressing vaccines'
Lisa Perruzza
(Institute for Research in Biomedicine, Bellinzona, Switzerland)

Poster 104
'Characterization of the Antibody in Lymphocyte Supernatant (ALS) assay after oral immunization with Shigella sonneli WRSs2 and WRSs3 and correlation with systemic and mucosal immune responses'
Malabik Venkatesan1, Jill El-Khorazaty1, Monica McNeal1, Cassandra Ballou2, Shoshana Barnoy1, Michelle Dickey3, Robert W French Jr3 and Shahida Baqar1
(1) Bacterial Diseases Branch, Walter Reed Army Institute of Research, Silver Spring, Maryland, USA; 2 The Emmes Company, LLC, Rockville, Maryland, USA; 3 Department of Pediatrics, University of Cincinnati College of Medicine, Cincinnati, Ohio, USA and Division of Infectious Diseases, Cincinnati Children’s Hospital Medical Center, Cincinnati, Ohio, USA; 4 Enteric and Sexually Transmitted Infections Branch, Division of Microbiology & Infectious Diseases, NIAID, NIH, Bethesda, Maryland, USA)

Poster 105
'Preclinical evaluation of a live attenuated Salmonella enterica serovar Newport vaccine'
Shamima Nasrin1, Fabien J. Fuche, Khadra T. Sears, Jennifer Jones, Myron M. Levine, Raphael Simon and Sharon M. Tennant
(Center for Vaccine Development and Global Health, Department of Medicine, University of Maryland School of Medicine, Baltimore, Maryland, USA)

Poster 106
'The occurrence of cholera in Africa is associated with drought conditions'
Sean M. Moore1,2, Alan Costello1, Elizabeth C. Lee3, Andrew S. Azman3, Justin Lessler1 and Ben Zaitchik4
(1) Center for Global Health Equity and Social Determinants of Health, University of Notre Dame, Notre Dame, Indiana, USA; 2 Institute for Global Health, University of Notre Dame, Notre Dame, Indiana, USA; 3 Department of Epidemiology, Johns Hopkins School of Public Health, Baltimore, Maryland, USA; 4 School of Public Health, University of California, Berkeley, California, USA)

Poster 107
'A multiplex ELISA for evaluating environmental enteric dysfunction interventions and vaccine immunogenicity'
Michael B. Arndt1, Jason L. Cantera1, Laina D. Mercer1, Michael Kalnoky5, Heather N. White1, Gregory Bizilj1, David S. Boyle1, Eugenio L. de Hostos3 and Robert K.M. Choy1
(1) PATH, Seattle, Washington, USA; 2 Institute for Health Metrics and Evaluation, University of Washington, Seattle, Washington, USA)

Poster 108
'A novel approach to develop a Shigella vaccine using adenoviral vector platform'
Young-Hye Moon1,2, Min Jung Kim1, Seonghun Jeong1, Young-Shin Park1, Manki Song1 and Jae-Ouk Kim1
(1) Clinical Research Lab, International Vaccine Institute, Seoul National University Research Park, Seoul, South Korea; 2 Laboratory of Immunology, College of Pharmacy, Seoul National University, Seoul, South Korea)

Poster 109
'Enteric surveillance reveals viral etiology of acute gastroenteritis in US military training facilities'
Melissa S. Anderson1, Scott Vo1, Melinda S. Balansay2, Michael A. Zundel2, Paul C.F. Graf2, Ewell M. Hollis2 and Christopher A. Myers2
(1) General Dynamics Information Technology, San Diego, California, USA; 2 Naval Health Research Center, San Diego, California, USA)

Poster 110
'Adjuvant activity of dLT in immune cells from infants and adults'
Marjahana Akhtar1, Nuder Nower Nizam1, Salima Riajan Bashe1, Nazima Hossain1, Sarmin Akter1, Taufigur Rahman Bhuiyan1, Firdausi Qadri1 and Anna Lundgren2
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'Human neonatal Fc receptor is the cellular uncoating receptor for enterovirus B'
Xin Zhao1,4,15, Guigen Zhang1,2,3, Sheng Liu5,6,15, Xiangpeng Chen1,5,15, Ruchao Peng1, Li Jian1, Xiao Qu1, Shihua Li1, Hao Song6, Zhengrong Gao2, Pengfei Yuan1, Zhiheng Liu2,3, Changyao Shang1, Yan Li2, Meifan Zhang1, Jianxun Qi1, Han Wang1, Ning Du1, Yan Wu1, Yuhai Bi1,4, Shan Gao1, Yi Shi1,4, Jinghua Yan1,4,15, Yong Zhang1,4,15, Zhengde Xie1, Wensheng Wei1 and George F. Gao1,4,5,6,12,14,16
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`Validation of a human challenge model using an LT-expressing enterotoxigenic E. coli strain (LSN03-016011) and characterization of potential amelioration of disease by an investigational LT-ETEC vaccine candidate (VLA1701)`
Kawser R. Talaat1, Chad K. Porter1, Subhra Chakraborty1, Britanny Feijoo1, Jessica Brubaker1, Britanny Adjojodi1, Michael Prouty2, Steven Poole2, David Sack1, Susanne Eder-Lingelbach1 and Christian Taucher1

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`Comparative immunogenicity of glycoconjugate vaccines delivering Shigella flexneri 6-O-antigen of differing lengths` Maria Michellina Raso1,2, Gianmarco Gasperini1, Renzo Alfini1, Fabiola Schiavo1, Francesca Necchi1, Allan Saul1, Paola Cescutti2 and Francesca Micoli2

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