THE TENTH INTERNATIONAL CONFERENCE ON:

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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Timo Vesikari (University of Tampere, Finland)
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Myron M. Levine (University of Maryland, USA)
John D. Clemens (icddrb, Dhaka, Bangladesh)
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Bernd Benninghoff (GSK Biologicals, Ware, Belgium)
Daniel Cohen (Tel Aviv University, Tel Aviv, Israel)
Martin Mengel (Global Health Consulting, Spain)
Hugues Bogaerts (Consultant, Takeda Vaccines, Belgium)
Fred Cassels (PATH, Washington DC, USA)
Shahida Baqar (NIAID/NIH, Bethesda, Maryland, USA)
Milton Maeler 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 Rigsby1, Jason Hockley1, Eleanor Atkinson3, Carolyn Swann2, Kay Locker4, Alastair Logan1 and Barbara Bolgiano1
(*Division of Bacteriology, 1 Biostatistics and 1 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 (GPDS) network (*Division of Infectious Diseases and International Health, University of Virginia, Charlottesville, 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)

SESSION 3: CLINICAL ETEC VACCINE TRIALS

Moderators: Ann-Mari Svenerholm (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 Akhtar1, Anna Lundgren2, Nils Carlin3, A. Louis Bourgeois4, Alan Fix5, Thomas Wierzba4, Richard N. Walker4 and Ann-Mari Svenerholm2
(*icddr,b (International Center for Diarrheal 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 dmLT adjuvant’
Anna Lundgren2, Marjahan Akhtar1, Joanna Kaim1, Ana Cardeno1, Firdausi Qadri2 and Ann-Mari Svenerholm2
(*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. Lane1, M. Harner1, A.D. Vazquez1, M.S. Riddle1, M. Maciel Jr.1,2, K.E. Dori1,2, L. Yang1, A.N. Alcala1,2, D.R. Tribble1, R. Erdem1, N. Maier1, A.L. Bourgeois7 and M.G. Prouty7
(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. Prouty7
(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 Walker3, Lou Bourgeois1 and Firdausi Qadri2
(1 University of Gothenburg, Gothenburg, Sweden; 2 Infectious Diseases Division, icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh; 3 PATH, Washington, DC, USA)

17.20-17.35
‘MecVax, a broadly protective subunit vaccine against enterotoxigenic Escherichia coli (ETEC) diarrhea’
Hyesuk Seo1,3, Xiaosai Ruan1, Giangde Duan1, Carolina Garcia1, David A. Sack2 and Weiping Zhang1,3
(1 Department of Diagnostic Medicine/Pathobiology, Kansas State University, Manhattan, Kansas, USA; 2 Department of International Health, Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland, USA; 3 Department of Pathobiology, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA)

17.35-17.50
‘Immunogenicity characterization and pre-clinical evaluation of a combo vaccine for Shigella and enterotoxigenic Escherichia coli (ETEC)’
Hyesuk Seo1, Shaghayegh Anvar1, Siqi Li1, Ti Lu1, David A. Sack2 and Weiping Zhang1
(1 University of Illinois at Urbana-Champaign, Department of Pathobiology, Urbana, Illinois, USA; 2 Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland, USA)

17.50-18.05
‘Experience from developing clinical trial sites in Nepal: Challenges, Risks & Mitigation Strategies’
Tarun Saluja, Bo Mi Kim, Suchada Chinarorapong, Sue Kyoung Jo, T. Anh Wartel and Sushant Sahastrabuddhe
(International Vaccine Institute (IVI), Seoul, Republic of Korea)
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’
(Division of Infectious Diseases and International Health, University of Virginia, Charlottesville, Virginia, USA)

09.20-10.00
‘The association between Helicobacter pylori infection and the immune diseases to inform vaccine design’
Erik Vanderbeke6, Ann Depicker3,4 and Nico Callewaert1,2
1. Laboratory of Immunology, Faculty of Veterinary Medicine, Ghent University, Gent, Belgium; 2 VIB Center for Plant Systems Biology, Gent, Belgium

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 Weken1, Ann Depicker2,3, Eric Cox2 and Bert Devriendt1
1. Laboratoire de Maladies Infectieuses, Institut des Sciences de l’Animal, Université Libre de Bruxelles, Belgium; 2 Department of Plant Biotechnology and Bioinformatics, Ghent University, Gent, Belgium; 3 VIB Center for Plant Systems Biology, Gent, 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 Rykaert2,3, Eric Cox2, Erik Vanderbeke2, Ann Depicker2,3 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

10.40-11.00
‘The association between Helicobacter pylori infection and the immune response to polio vaccine among school-age children’
Khitam Muhsen1, Layaly A. Zaheer1, Eias Kassem2, Morav Weil1 and Myron M. Levine4
1. Department of Epidemiology and Preventive Medicine, School of Public Health, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; 2 Department of Pediatrics, Hilltop Yaffe Medical Center, Hadera, Israel; 3 Central Virology Laboratory, Ministry of Health, Chaim Sheba Medical Center, Ramat-Gan, Israel; 4 Center for Vaccine Development and Institute for Global Health, University of Maryland School of Medicine, Baltimore, Maryland, USA

11.00-11.20
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
1VIVO 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/gi.4 virus-like particle vaccine candidate in healthy us adults’
Taisel Masuda
(Takeda Pharmaceuticals International AG, Giattpark-Opfikon (Zurich), Switzerland)

12.40-13.00
‘Risk of post-infectious functional gastrointestinal disorders and gastroparesis following norovirus outbreaks at a naval recruit training facility’
Kayla M. Jaep1, Kwarsa T. Ralaat1, Mark S. Riddle1, Ramiro L. Gutierrez1 and Chad K. Porter1
1 Enteric 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. Laird1,2, Mario A. Monteiro3, Chad Porter1 and Patricia Guerry1
1 Naval Medical Research Center, Silver Spring, Maryland, USA; 2 Henry M. Jackson Foundation, Bethesda, Maryland, USA; 3 Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA; 4 University of Guelph, Guelph, Ontario, Canada

14.00-14.20
‘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. Prouty1, Stephen J. Savarino1, Mario A. Monteiro3, Patricia Guerry2 and Frédéric Poly1
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
14.20-14.40
‘Campylobacter jejuni’ capsule type distribution in low and middle-income countries
Tegan N. Clarke1,2, Chad Porter1 and Frédéric Poly2
(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. Szymanski1,2,3
(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
‘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’
Renee M. Laird1,2, Amritha Ramakrishnan1, Nina M. Schumack1,2, Gladys Nunez2, Nereyda Espinosa1, Rosalva Castille1, Jesus Rojas3, Andrea J. McCoy1, Zoltan Beck1,4, Gary R. Matyas1,2, Carl R. Alving5, 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 Bacteriology Department, U.S. Naval Medical Research Unit No. 6, Callao, Peru; 4 U.S. Military HIV Research Program, Walter Reed Army Institute of Research, Silver Spring, Maryland, USA)

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
‘Shigella vaccines overview and update – II’
Daniel Cohen
(Tel Aviv University, Tel Aviv, Israel)

16.00-16.20
‘GMP manufacture, characterization and clinical evaluation of Shigella flexneri 2a detoxified artificial invaplex’
K.A. Clarkson1, R. Gutierrez2, K.R. Turbyfill2, K. Detzio2, A.R. Vothers1, A. Lynam1, B. Barnard1, H. Weerts1, C. K. Porter2, N. Maier1, R. Erdem3, A. L. Bourgeois2 and R.W. Kaminski2
(1 Subunit Enteric Vaccines and Immunology, Bacterial Diseases Branch, Walter Reed Army Institute of Research, Silver Spring, Maryland, USA; 2 Naval Medical Research Unit No. 6, Callao, Peru; 3 PATH, Washington DC, USA)

16.20-16.40
‘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)

16.40-17.00
‘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. Kaminski2 and John M. Crawford1
(1 Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand; 2 Immunovax, Blackburn, Australia; 3 Walter Reed Army Institute of Research (WRAIR), Silver Spring, Maryland, USA)

17.00-17.20
‘An advantaged approach to oral vaccination against shigellosis using a killed whole cell vaccine’
Tarun Sharma1, Neeraj Joshi1, Ashwani Kumar Mandyal1, Nidhi Shukla3, Shushruta Bhunia1, Anoop Kumar1, Khalid Ali Syed1, Hermanta Koley2, Shanta Dutta3 and Davinder Gill1
(1 MSD Wellcome Trust Hilleman Laboratories Pvt. Ltd. New Delhi, India; 2 NICED, National Institute of Cholera and Enteric Disease, Kolkata, India)

17.20-17.40
‘Development of a Shigella multivalent bioconjugate vaccine: Toward a phase 1/2 in Kenyan infants’
Cristina Alaimo
(LimaTech Biologics AG, Schlieren, Switzerland)
SESSION 9: CHOLEREA – I

Moderators: Martin Mengel (Global Health Consulting, Spain) and 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
‘Hillchol-B: A novel dry-formulation, heat-stable, low-cost enterocoated single-strain+B-subunit oral cholera vaccine’
(University of Gothenberg, Gothenberg, Sweden; Hilleman Research Laboratories, New Delhi, India)

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, Khitam Muhsen1, Samba O. Sow2,3, Milagritos D. Tapia2,3, Mardi Reymann3, Jason Harris4, Stephen Lauer1, Fatema Khaton1, Jannatul Ferdous1, K. Ali and D. Gill
(1 Research Department, Centre for Infectious Disease Research in Zambia, Lusaka, Zambia; 2 Department of International Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA)

10.20-10.40
‘Vibrio cholerae transmission in Bangladesh: Insights from a national serosurvey’
Andrew S. Azman1, Justin Lessler2, Daniel Leung3, Francisco J. Luquero2, Jason Harris4, Stephen Lauer1, Fatema Khaton1, Jannatul Ferdous1, Kishor Kumar Paul1, Taufiqur Bhuiyan2, Henrik Salje6,1 and Emily S. Gurley1
(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)

10.40-11.00
‘The association between Helicobacter pylori infection and the immune response to CVD 103-HgR live oral cholera vaccine’
Khitam Muhsen1, Samba O. Sow2,3, Millagritos D. Tapia2,3, Mardi Reymann3, Marcela F. Pasetti4 and Myron M. Levine5
(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)

11.00-11.20
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. Lo2,3, Nimalan Arinaminpathy4, Isabel Frost5 and Ramanan Laxminarayan1,6
(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 Dickson1, Masud Alam2, Sajia Afreen2, Abdul Kader2, Faria Afrin3, Tania Ferdousi2, Christina Damon1, Soyeon Kim1, Monica McNeal1, Daniel Bak1, Mona Tolba1, Marya Carmolli1, Mami Taniuchi4, Rashidul Haque1 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 Ikhtear Uddin1, Salma Sharmin2, Shahidul Islam2, Taufiqur Rahman Bhuiyan1, Masud Alam1, Uma Nayak1, Josyf C. Mychaleckyj1, William A. Petri, Jr.3, Rashidul Haque1, Firdausi Qadri2, 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 Cincinnati Children’s Hospital Medical Center, Cincinnati, Ohio, USA; 4 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. Knirel1, Vyacheslav L. L’vov1, Alexander L. Kovalchuk2 and Petr G. Aparin1

1 National Research 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. Brunik1, Danielle Callan1, Dave Falke2, Steve Fischer1, Danica Helbi1, Jay Humphrey2, John Juddka1, Jessica C. Kissinger1, 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 sonnei WRSs2 and WRSs3 and correlation with systemic and mucosal immune responses’

Malabri Venkatesan1, Jill El-Khazaryat2, Monica McNeal3, Cassandra Balloiu1, Shoshana Barmoy1, Michelle Dickey1, Robert W Frenck Jr1 and Shahida Baqar4

1 Bacterial Diseases Branch, Walter Reed Army Institute of Research, Silver Spring, Maryland, USA; 2 The Emme 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 Nasrin, Fabien J. Fuche, Khandra 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, 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 107**

‘A multiplex ELISA for evaluating environmental enteric dysfunction interventions and vaccine immunogenicity’

Michael B. Arndt1,2, Jason L. Cantera1, Laina D. Mercer1, Michael Kalnoky1, Heather N. White1, Gregory Bizili2, David S. Boyle1, Eugenio L. de Hostos1 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 Immune Regulation, 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 dmLT in immune cells from infants and adults’

Marjana Akhtar1, Nuder Nower Nizam2, Salima Raihan Basher1, Lazine Hossain1, Sarmin Akter1, Tafiquir Rahman Shujhian2, Firdausi Qadri2 and Anna Lundgren1

1 International Centre for Diarrhoeal Disease Research, Bangladesh; 2 Department of Microbiology and Immunology, University of Gothenburg, Sweden)

**Poster 111**

‘Human neonatal FC receptor is the cellular uncoating receptor for enterovirus B’

Xin Zhao1,2, Guigen Zhang2,3, Sheng Liu1,4, Xinpeng Chen2,3, Ruchao Peng1, Lianpan Dai2, Xiao Qi1, Shihua Li1, Hao Song3, Zhengrong Gao4, Pengfei Yuan1, Zhiheng Li4,5, Changyao Li4,5, Zifang Shang1, Yan Li6, Mefian Zhang1, Jianxun Qi1, Han Wang6, Ning Du5, Yan Wu4, Yuhai Bi1, 4, Shan Gao6, Yi Shi1,4, Jinghua Yan1,4, Yong Zhang2,3, Zhengde Xie1, Wensheng Wei1 and George F. Fau1

1 CAS Key Laboratory of Pathogenic Microbiology and Immunology, Institute of Microbiology, Chinese Academy of Sciences, Beijing, China; 2 Biomedical Pioneering Innovation Center (BIOPI), Beijing Advanced Innovation Center for Genomics, Peking-Tsinghua Center for Life Sciences, Peking University Genome Editing Research Center, State Key Laboratory of Protein and Plant Gene Research, School of Life Sciences, Peking University, Beijing, China; 3 Key Laboratory of Major Diseases in Children, Ministry of Education, National Clinical Research Center for Respiratory Diseases, Beijing Key Laboratory of Pediatric Respiratory Infection Diseases, Virology Laboratory, Beijing Pediatric Research Institute, Beijing Children’s Hospital, Capital Medical University, National Center for Children’s Health, Beijing, China; 4 CAS Center for Influenza Research and Early-Warning (CASCIRE), Chinese Academy of Sciences, Beijing, China; 5 School of Life Sciences, University of Science and Technology of China, Hefei, Anhui, China; 6 Research Network of Immunity and Health (RNIIH), Beijing Institutes of Life Science, Chinese Academy of Sciences, Beijing, China; 7 KunMing Institute of Zoology, Chinese Academy of Sciences, KunMing, China; 8 EdiGene Inc, Changping District, Beijing, China; 9 Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; 10 CAS Key Laboratory of Bio-medical Diagnostics, Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences, Suzhou, China; 11 CAS Key Laboratory of Microbial Physiological and Metabolic Engineering, Institute of Microbiology, Chinese Academy of Sciences, Beijing, China; 12 National Institute for Viral Disease Control and Prevention, Chinese Center for Disease Control and Prevention (China CDC), Beijing, China; 13 WHO WPRO Regional Polio Reference Laboratory, NHC Key Laboratory of Biosafety, National Institute for Viral Disease Control and Prevention, Chinese Center for Disease Control and Prevention, Beijing, China; 14 Savaid Medical School, University of Chinese Academy of Sciences, Beijing, China)
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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)’

Kawarz R. Talaat1, Chad K. Porter2, Subhra Chakraborty1, Brittany Feijoo1, Jessica Brubaker1, Brittany Adjooodani1, Michael Prouty3, Steven Poole2, David Sack1, Susanne Eder-Lingelbach3 and Christian Taucher4

(1 Department of International Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA; 2 Naval Medical Research Center, Silver Spring, Maryland, USA; 3 Valneva, Austria GmbH, Austria)

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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 Alfoni1, Fabiola Schiavo1, Francesca Necchi1, Allan Saul1, Paola Cescutti1 and Francesca Micoli1

(1 GSK Vaccines Institute for Global Health (GIVHI) S.r.l., Siena, Italy; 2 Dipartimento di Scienze della Vita, Università degli Studi di Trieste, Trieste, Italy)

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‘Development, characterization, and immunological evaluation of parenterally delivered CS6-subunit vaccine candidates against enterotoxigenic E. coli (ETEC)’

Steven Poole1,2, Milton Maciel Jr.1,2, Amritha Ramakrishnan1, Yang Liu1,2, Kathleen Don1 and Michael G. Prouty2

(1 Henry M. Jackson Foundation, Bethesda, Maryland, USA; 2 Naval Medical Research Center, Silver Spring, Maryland, USA)

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‘Characterization of cholera antigen-specific cells in blood and mucosa’


(1 Infectious Diseases Division, International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), Dhaka, Bangladesh; 2 Ragon Institute, Harvard Medical School, Boston, Massachusetts, USA; 3 Division of Infectious Diseases, Massachusetts General Hospital, Boston, Massachusetts, USA; 4 Department of Medicine, Harvard Medical School, Boston, Massachusetts, USA; 5 National Institute of Diabetes and Digestive and Kidney Diseases, Laboratory of Bioorganic Chemistry, National Institutes of Health, Bethesda, Maryland, USA; 6 Department of Medicine, University of California, Irvine, California, USA; 7 Department of Immunology and Infectious Diseases, Harvard T.H. Chan School of Public Health, Boston, Massachusetts, USA)

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‘Optimizing a disease severity scale for evaluation of vaccine and other preventive or treatment interventions for Travelers’ Diarrhea (TD) in adults’

N. Maier1, M.S. Riddle2, D. Tribble3, A.L. Bourgeois1 and C.K. Porter2

(1 PATH, 2 Naval Medical Research Center, Silver Spring, Maryland, USA; 3 Uniformed Services School of Health Sciences (USU), Bethesda, Maryland, USA; 4 Infectious Diseases Clinical Research Program, USU, Bethesda, Maryland, USA)

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‘ClinEpiDB: the Clinical Epidemiology Database Resource’

Cristina Aurrecoechea1, Brian P. Brunk1, Danielle Callan2, Dave Falke2, Steve Fischer1, Danica Helb1, Jay Humphrey2, John Judkins1, Jessica C. Kissing1, Brianna Lindsay3, David S. Roos4, Sheena Shah Tomko5, Christian J. Stoeckert, Jr4 and Jie Zheng4

(1 University of Pennsylvania, Philadelphia, Pennsylvania, USA; 2 University of Georgia, Athens, Georgia, USA)

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‘An mRNA-based vaccine technology for next generation prophylactic vaccines against rotavirus’

Sandro Roier, Susanne Rauch and Benjamin Petch
(CureVac AG, Tübingen, Germany)

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