Vaccines For Enteric Diseases (VED 2019), will address the diverse aspects of vaccines to counter human enteric diseases. With regard to global public health issues, enteric diseases probably represent the first cause of infectious morbidity and second cause of infectious mortality worldwide. The added complications surrounding the increasing resistance to bacterial enteric pathogens to antibiotics are creating a worldwide trend that will require enhanced enteric vaccine strategies. Taking into consideration the major difficulties faced in drastically improving the sanitary conditions in large areas of the developing world which accounts for more than 95% of enteric infections, enteric vaccine strategies may become the prime preventative approach. Enteric infections also present problems in the industrialized world where the food chain continues to be compromised by enteric pathogens.

SCIENTIFIC ADVISORY PANEL

Duncan Steele (Bill & Melinda Gates Foundation, USA)
Timo Vesikari (University of Tampere, Finland)
Carol O. Tacket (University of Maryland, USA)
Myron M. Levine (University of Maryland, USA)
John D. Clemens (icddrb, Dhaka, Bangladesh)
Kevin Killeen (Matrivax Corporation, Boston, USA)
Ann-Mari Svennerholm (Göteborg University, Sweden)
Harry B. Greenberg (Stanford University, USA)
Umesh Parashar (CDC, Atlanta, USA)
David Sack (Johns Hopkins University, Baltimore, Maryland, USA)
Armelle Phalipon (Pasteur Institute, Paris, France)
Robert Hall (NIAID/NIH, Bethesda, Maryland, USA)
Ladaporn Bodhidatta (AFRIMS, Bangkok, Thailand)
Bernd Benninghoff (GSK Biologicals, Wavre, Belgium)
Daniel Cohen (Tel Aviv University, Tel Aviv, Israel)
Martin Mengel (Agence de Médecine Préventive, Paris, France)
Hugues Bogaerts (Consultant, Takeda Vaccines, Belgium)
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)

VED 2019 WILL BE A MAJOR OPPORTUNITY TO:

Re-evaluate the diarrheal disease burden both in the industrialized and developing worlds
Discuss which diseases, depending on the area, would require an immunization strategy and if eradication or control of the selected disease is achievable by a vaccine
Discuss the state-of-the-art vaccine candidates currently available
Discuss obstacles to obtaining institutional and industrial support for these vaccines
Review of studies in developing countries
Air views on the lack of facilities for enteric vaccine trials
Discuss the distribution of vaccines and implementation policy in the developing world
08.00am onwards
Registration

Welcome & Opening Remarks

SESSION 1: OPENING PLENARY SESSION

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

‘How could licensure and impact of enteric vaccines be accelerated?’
Birgitte Giersing
(WHO, Geneva, Switzerland)

‘Enteric Vaccines the PATHway forward’
Fred Cassels
(PATH, Washington DC, USA)

‘The importance of vaccine herd protection in the oral cholera vaccine story’
John D. Clemens
(icddr,b, Dhaka, Bangladesh)

Coffee Break & Poster Session Set-Up

SESSION 2: STANDARDISATION/BURDEN/SURVEILLANCE

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

‘Standardisation of new enteric vaccines’
Sjoerd Rijpkema1, Fang Gao1, Peter Rigsby3, Jason Hockley3, Eleanor Atkinson3, Carolyn Swann2, Kay Lockyer1, Alastair Logan1 and Barbara Bolgiano2
(1 Division of Bacteriology, 2 Biostatistics and 3 Laboratory for Molecular Structure, National Institute for Biological Standards and Control, Potters Bar, Hertfordshire, UK)

‘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, USA)

‘Recent findings from the World Health Organization-coordinated Global Rotavirus Surveillance Network’
Adam Lauren Cohen
(WHO, Geneva, Switzerland)

‘Geographic variation in diarrhoea mortality and treatment in low- and middle-income countries, 2000-2017’
Kirsten Wiens
(University of Washington, Seattle, Washington, USA)

Lunch Break & Poster Session

SESSION 3: CLINICAL ETEC VACCINE TRIALS

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

‘Overview: ETEC vaccines in clinical trials (current or in planning)’
Lou Bourgeois
(PATH, Washington DC, USA)

‘Evaluation of the safety and immunogenicity of the oral inactivated enterotoxigenic Escherichia coli vaccine ETXV in Bangladeshi children and infants in a double-blind, randomized, placebo-controlled Phase I/II trial’
Firdausi Qadri1, Taufiqur R. Bhuiyan2, Marjahan Akhtar1, Anna Lundgren2, Nils Carln3, A. Louis Bourgeois4, Nicole Maiers4, Alan Firx, 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)

‘T cell responses induced by the orally inactivated ETEC vaccine ETXV given with or without dmlT adjuvant’
Anna Lundgren1, Marjahan Akhtar2, Joanna Kaim1, Ana Cardeno1, Firdausi Qadri2 and Ann-Mari Svennerholm1
(1 University of Gothenburg Vaccine Research Institute, Sahlgrenska Academy, Sweden; 2 icddr,b (International Centre for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh)

‘Evaluation of the oral etxv® 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)

‘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. Hamer4, A.D. Vazquez5, M.S. Riddle6, M. Maciel Jr.1,2, K.E. Dor1, L. Yang1, A.N. Alcala1, D.R. Tribble7, R. Erdem1, N. Maier2, A.L. Bourgeois1 and M.G. Prouty4
(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)

‘Serological and α4β7 antibody-secreting cell responses after intramuscular immunization with Css8A, 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, Tida K. Lee2, kayla Jaep1,2, Chad Porter1, Steven Poole1,2 and Michael G. Prouty2
(1 Henry M. Jackson Foundation, Bethesda, Maryland, USA; 2 Naval Medical Research Center, Silver Spring, Maryland, USA)

General Discussion on Clinical Trials

Tea Break & Poster Session
SESSION 4:
Enteric Vaccines Fronteirs

Moderators: John D. Clemens (icdrr,b, Dhaka, Bangladesh) and Elizabeth Norton (Tulane University, New Orleans, Louisiana, USA)

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

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

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

‘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, icdrr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh; 3 PATH, Washington, DC, USA)

‘MecVax, a broadly protective subunit vaccine against enterotoxigenic Escherichia coli (ETEC) diarrhea’
Hyesuk Seo1,3, Xiaosai Ruan1, Qiangde 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)

‘Immunogenicity characterization and pre-clinical evaluation of a combo vaccine for Shigella and enterotoxigenic Escherichia coli (ETEC)’
Hyesuk Seo1, Shaghayegh Anvari1, 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)

‘Experience from developing clinical trial sites in Nepal: Challenges, Risks & Mitigation Strategies’
Tarun Saluja, Bo Mi Kim, Suchada Chinaworapong, Sue Kyoung Jo, T. Anh Wartel and Sushant Sahastrabuddhe (International Vaccine Institute (IVI), Seoul, Republic of Korea)
SESSION 5: IMMUNITY & MECHANISMS

Moderator: To be confirmed

‘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. Mduuma, Margaret N. Kosek, Jose Paulo Leite, Ladaporn Bodhidatta, Najehia Iqbal, Nicola Page, Ireen Kiwelu, Zuﬁqar Bhutta, Tahmeed Ahmed, Eric R. Houpt and James A. Platts-Mills (Division of Infectious Diseases and International Health, University of Virginia, Charlottesville, Virginia, USA)

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

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

‘Antibody-mediated selective targeting to gut epithelial aminopeptidase N triggers small intestinal immunity’
Raquel Sanz Garcia1, Shruti Bakshi2,3, Hans Van der Weken4, Ann Depicker2,3, Eric Cox5 and Bert Devriendt6
(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)

‘Yeast-secreted monomeric IgA prevents ETEC infection in a piglet model’
Vikram Virdi1,2,3, Jorge Palaci3,4, Bram Laukens1, Stefan Rykaert1,2, Eric Cox5 and Erik Vanderbeke6
(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)

‘The association between Helicobacter pylori infection and the immune response to polio vaccine among school-age children’
Khitam Muhsen1, Lagaly A. Zaheer2, Elias Kassem3, Merav Weil4 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 Department of Pediatrics, Hillel Yaffe Medical Center, Hadara, Israel; 3 Central Virology Laboratory, Ministry of Health, Chain 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)

Coffee Break & Poster Session

SESSION 6: NOROVIRUS VACCINES

Moderator: To be confirmed

KEYNOTE
‘Norovirus Vaccines Progress Overview’
Speaker to be confirmed

‘Norovirus vaccines overview’
Speaker to be confirmed

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

‘Risk of post-infectious functional gastrointestinal disorders and gastroesophageal reflux disease following norovirus outbreaks at a naval recruit training facility’
Kayla M. Jaap1, Kawsar R. Talae2, Mark S. Riddle2, Ramiro L. Gutierrez2 and Chad K. Porter3
(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)

Lunch Break & Posters Session

SESSION 7: SPECIAL SESSION – CAMPYLOBACTER JEJUNI

Moderator: To be confirmed

‘Development of a capsule conjugate vaccine against Campylobacter jejuni: Past, present and future’
Frédéric Poly1, Renee M. Laird2, 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 Enteric Diseases Department, Naval Medical Research Center, Silver Spring, Maryland, USA)

‘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, 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 Henry M. Jackson Foundation, Bethesda, Maryland, USA; 3 Bacteriology Department, U.S. Naval Medical Research Unit No. 6, Callao, Peru)

‘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)

‘A glycoconjugate vaccine to reduce Campylobacter jejuni’
Harald Nothelfer1,2 and Christine M. Szymanski2,3,4
(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)

‘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 Ramakrishnan3, Nina M. Schumack1,5, Gladys Nunez1, Nereyda Espinoza1, Monica Nieto1, Rosa Castillo1, Jesus Rojas1, Andrea J. McCoy4, Zoltan Beck1,5, Gary R. Matyas1, Carl R. Ahving1, Patricia Guerry2 and Frédéric Poly5
(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)

Tea Break & Posters Session
SESSION 8: SHIGELLA

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

‘Shigella vaccines overview and update – I’
Armelle Phalipon
(Pasteur Institute, Paris, France)

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

‘GMP manufacture, characterization and clinical evaluation of Shigella flexneri 2a detoxified artificial invaplex’
K.A. Clarkson1, R. Gutierrez2, K.R. Turbyfill1, K. Detzio1, A.R. Votherms1, A. Lynen2, 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)

‘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)

‘Immunoprophylactic efficacy of hyperimmune bovine colostrum (HBC) for shigellosis in rhesus macaques’
Dilara Islam1, Nattaya Ruamsap1, Rawiwan Imerbsin1, Jerry Kanellos2, Brett E. Swierczewski2, Robert W. Kaminski1 and John M. Crawford1
(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)

‘An adjuvanted approach to oral vaccination against shigellosis using a killed whole cell vaccine’
Tarun Sharma1, Neeraj Joshi1, Ashwani Kumar Mandyal1, Nidhi Shukla1, Shushruta Bhunia1, Anoop Kumar1, Khalid Ali Syed1, Hemanta Koley2, Shanta Dutta1 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)

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

Moderators: Robert Hall (NIAID, NIH, Bethesda, Maryland, USA) and David Sack (Johns Hopkins University, Baltimore, Maryland, USA)

‘Contrasting cholera epidemiology between Africa and Asia: Implications for vaccination strategies’
David Sack
(Johns Hopkins University, Baltimore, Maryland, USA)

‘Hill chol-B: A novel dry-formulation, heat-stable, low-cost enterocoated single-strain+B-subunit oral cholera vaccine’
(University of Gothenburg, Gothenburg, Sweden; Hilleman Research Laboratories, New Delhi, India)

Title to be confirmed
Robert Hall
(NIAID, NIH, Bethesda, Maryland, USA)

Coffee Break & Poster Session

SESSION 10: CHOLERA – II

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

‘Effect of extended dose intervals on immune response to oral cholera vaccine in Zambia’
John Mwaba1, Caroline Cleopatra Chisenga2, Patrick Sheka2, Chileshe Mabula-Bwalya1, Katayi Mwila-Kazimba1, Natasha Makabilo Laban2, Masuzyo Chirwa-Chobe1, Mohammad Ali, Michelio Simuyandi1, David A. Sack2, Roma Chilengi1 and Amanda Debes2
(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)

‘Vibrio cholerae transmission in Bangladesh: Insights from a national serosurvey’
Andrew S. Azman1, Justin Lessler1, Daniel Leung1, Francisco J. Luquero2, Jason Harris4, Stephen Lauer1, Fatema Khatun3, Johannat Ferdous3, Kishor Kumar Paul2, Taufiqur Bhuiyan1, Henrik Salje6,1, Firdausi Qadri5,1, K. Ali and D. Gill
(1 Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA; 2 Division of Epidemiology, Stanford University School of Medicine, Stanford, California, USA; 3 Division 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 Institut Pasteur, Paris, France)

‘The association between Helicobacter pylori infection and the immune response to CVD 103-HgR live oral cholera vaccine’
Khitam Muhsen1, Samba O. Sow2,3, Milagritos D. Tapia2,3, Mardi Reymann3, Marcella F. Pasetti3 and Myron M. Levine1
(1 Department of Epidemiology and Preventive Medicine, School of Public Health, Sakler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; 2 Center for 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)

Lunch Break & Posters

SESSION 11: ROTAVIRUS VACCINES

Moderators: K. Zaman (icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh) and Bernd Benninghoff (GSK, Wavre, Belgium)

‘Rotavirus vaccine: From development to global use’
K. Zaman
(icddr,b (International Center for Diarrhoeal Disease Research, Bangladesh), Dhaka, Bangladesh)

‘Success story of human rotavirus vaccine: Lessons learned’
Bernd Benninghoff
(GSK, Wavre, Belgium)

‘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)

‘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)

‘The effects of increased inoculum on oral rotavirus vaccine take and immunogenicity among infants in Dhaka, Bangladesh’
Benjamin Lee1, Dorothy Dickson1, Masud Alum2, Sajia Afreen1, Abdul Kader2, Faria Afrin2, Tania Ferdous3, Christina Damon1, Soyeon Kim1, Monica McNeel1, Daniel Bak1, Mona Tolba1, Marya Carmolf1, Mami Tanichii1, Rashidul Haque4 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)

Closing Remarks & Departure

* This provisional programme is correct at the time of publication. However the organizers reserve the right to make any alterations that may be required in the interests and integrity of the conference programme.
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 Aurrecoechea², Brian P. Brunk¹, Danielle Callan¹, Dave Falke², Steve Fischer¹, Danica Helb¹, Jay Humphrey¹, 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 apyrase expressing vaccines’
Lisa Perruzza
(Institute for Research in Biomedicine, Bellinzona, Switzerland)
REGISTRATION

Delegates should register for VED 2019 by completing the form provided on the back page of this brochure. The completed Conference Registration Form plus payment (in £ Pounds Sterling) should be sent to the VED 2019 Conference Manager – Caroline Sumner at Meetings Management. The VED 2019 Conference Registration Desk will be open from 8.00am on Wednesday 16th October 2019.

Delegates can also register securely on-line at: www.meetingsmanagement.com/ved_2019

VENUE & ACCOMMODATION

VED 2019 will be held at:

CHUV, University of Lausanne, Lausanne, Switzerland

Accommodation: there are numerous hotels in Lausanne to suit most budgets. For information details on accommodation in Lausanne and other useful information, please visit:

http://www.lausanne-tourisme.ch/en/

Please note that the VED 2019 conference organizers will not be recommending any specific hotels in Lausanne.

October is a busy time in Lausanne and it is recommended that VED 2019 delegates book their accommodation without delay.

PUBLICATION

A USB storage device containing the final programme and abstracts of all presentations, oral and poster, will be distributed to delegates when they register at the conference.

TABLE TOP EXHIBITION

Table Top Exhibition space is available at the meeting. Exhibitors can showcase their products or services by reserving a table top exhibit. The exhibit area will be located where all refreshments breaks will be taken to ensure maximum traffic of conference delegates. If you are registering for the conference, you can reserve a table for £1650. If you do not wish to attend the conference sessions, you can reserve a table for £2995 (includes admission to all meals/receptions by one table for £1650. If you do not wish to attend the conference sessions, you can reserve a table for £2995 (includes admission to all meals/receptions by one table for £1650). If you do not wish to attend the conference sessions, you can register for the conference, you can reserve a table for £2995 (includes admission to all meals/receptions by one table for £1650). If you do not wish to attend the conference sessions, you can reserve a table for £2995 (includes admission to all meals/receptions by one table for £1650). If you do not wish to attend the conference sessions, you can reserve a table for £2995 (includes admission to all meals/receptions by one table for £1650).

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CANNOT ATTEND?

If you and your colleagues are unable to attend the conference, the conference materials (abstract booklet, speaker handouts, late abstracts, attendee list, pack materials and literature) are available for purchase. While not intended as a substitute for actual attendance, these materials would at least provide a documentary record of the event and allow you to keep you or your organization’s library up to date. The cost of providing this non-attendee package is £395 (including postage and packing). To order this package from Meetings Management please use the relevant section in the Delegates Registration Form on the back page of this brochure.

ANY QUESTIONS?

For further information and assistance, please contact: Caroline Sumner, VED 2019 Conference Manager:

VED 2019 Conference Secretariat, Meetings Management
Forge Cottage, Bowlhead Green, Godalming, Surrey GU8 6NW, United Kingdom.
Telephone: +44 (0)1483 427770 Fax: +44 (0)1483 428516
E-mail: csumner@meetingsmgmt.u-net.com

LATE-BREAKER ORAL AND POSTER ABSTRACTS

The Scientific Advisory Panel have set an extended deadline for Late-Breaker Oral and Poster Abstracts of Friday 20th September 2019. Prospective authors should submit one page Word documents to the Conference Organizers (Meetings Management) for consideration.

Please send submissions for the attention of John Herriot by e-mail to: jherriot@meetingsmgmt.u-net.com

Late-Breaker Oral and Poster Abstracts should be submitted by Friday 20th September 2019.
Please tick appropriate boxes and write clearly in BLOCK CAPITALS or type.

Surname ........................................... First Name ........................................... Title ...........................................

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Country ........................................... Telephone ........................................... Postcode ...........................................

Holiday: ........................................... Special diet (please state requirements): ...........................................

REGISTRATION FEES

<table>
<thead>
<tr>
<th>Speaker/Delegate Registration Fees:</th>
<th>(NOT THAT FEES ARE IN UK £ STERLING)</th>
<th>DELEGATE REGISTRATION FORMS NOT DULY &amp; FULLY COMPLETED WILL NOT BE VALID</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Speaker Registration (submitted oral/poster papers)</td>
<td>£650.00</td>
<td>Amount Due (£ Sterling)</td>
</tr>
<tr>
<td>☐ Reduced Early Bird Registration</td>
<td>£775.00</td>
<td></td>
</tr>
<tr>
<td>☐ Full Registration</td>
<td>£895.00</td>
<td></td>
</tr>
<tr>
<td>☐ Student Registration</td>
<td>Price on application</td>
<td></td>
</tr>
</tbody>
</table>

Table Top Exhibits/Delegate Pack Inserts

| ☐ Table Top Exhibit (I am NOT registered to attend) | £2995.00 | |
| ☐ Table Top Exhibit (I am registering for one of the four options above) | £1650.00 | |
| ☐ Delegate Pack Insert | £450.00 | |

For those Unable to Attend

| ☐ Set(s) of VED 2019 materials | @ £395.00 (per set) | £ |

Total Amount Payable

£

Registration fees include admission to all conference sessions, morning and afternoon refreshments and lunches on the 16th, 17th and 18th October 2019.

PAYMENT

☐ I enclose a cheque for £ ............................ made payable to Meetings Management. (Delegates registering from outside the UK must ensure that cheques are drawn on a London Bank. Please quote VED 2019 on the reverse of the cheque.)

☐ I have made a payment by bank transfer (quoting VED 2019 on the transfer documentation) to Barclays Bank, Barclays Business Centre, Guildford Branch, PO Box 33, Guildford, Surrey GU1 3AN, UK:

- UK Pounds Sterling Account: Meetings Management 0040614335
- IBAN: GB11BUKB20353540614335 SWIFT/BIC: BUKGBGB2
- Euro Account: Meetings Management 59179600
- IBAN: GB03BUKB20353559179600 SWIFT/BIC: BUKGBGB2

☐ I would like to pay £ ............................ by credit card (VISA/MasterCard/American Express only accepted). Card no. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ © 2019 MEETINGS MANAGEMENT LTD. All rights reserved. Printed in the United Kingdom.