

Wednesday, 4 September 2013

08.00-18.00 **Registration**
Exhibition Hall 2 Foyer (Level Zero)

Thursday, 5 September 2013

09.00-09.40 **Opening Ceremony**
Ballroom East (Level One)

Welcome From Congress and isirv Chair

Welcome From Cape Town Minister of Health

*The Honorable Aaron Motsoaledi, Minister of Health-South Africa
Cape Town, South Africa*

My search for Pandemic Influenza

*Robert Webster, St. Jude Children's Research Hospital, Memphis,
Tennessee, United States of America*

09.40-11.00 **Morning Plenary Session 1—Virology**
Ballroom East (Level One)

Chair: Wendy Barclay, Imperial College London, London, United Kingdom

vRNP Structure and How Does the Polymerase Work

*Yoshihiro Kawaoka, University of Wisconsin Madison, School of
Veterinary Medicine, Madison, Wisconsin, United States of America*

PA-x and PB1-N40

Paul Digard, The Roslin Institute, University of Edinburgh, Scotland

Importins and Their Role in Host Restriction of Avian Influenza viruses

*Gülsah Gabriel, Heinrich-Pette-Institute, Leibniz Institute for
Experimental Virology, Hamburg, Germany*

11.00-11.30 **Morning Networking and Refreshment**
Exhibition Hall 2 (Level Zero)

11.30-13.00 **Mid-Day Plenary Session 1—Pathogenesis**
Ballroom East (Level One)

Chair: Stacey Schultz-Cherry, St. Jude Children's Research Hospital, Memphis,
Tennessee, United States of America

Lung Injury/ARDS

Malik Peiris, Department of Microbiology and HKU-Pasteur Research Centre, The University of Hong Kong, Hong Kong SAR China

Overview on Pathogenesis and Transmission of Swine Influenza

Juergen Richt, Kansas State University, College of Veterinary Medicine, Manhattan, Kansas, United States of America

Experimental Studies of Influenza Virus Transmission in Humans

Jonathan Van Tam, Health Protection and Influenza Research Group, Epidemiology and Public Health, University of Nottingham, Nottingham United Kingdom

13.00-14.00

Lunch—on own

14.00-15.30

Concurrent Afternoon Workshops—A

Workshop 1A: News and Views From the H7N9 Outbreak

Ballroom East (Level One)

Chairs:

Yi Guan, University of Hong Kong, State Key Laboratory of Emerging Infectious Diseases, Hong Kong SAR, China
 Debby van Riel, Erasmus University Medical Centre, Rotterdam, The Netherlands

State-of-the-Art Presentation:

H7N9 Outbreak

Yi Guan, University of Hong Kong, State Key Laboratory of Emerging Infectious Diseases, Hong Kong SAR, China

Oral Presentations:

O-800

Comparative epidemiology of human infections with avian influenza A(H7N9) and A(H5N1) viruses in China. Benjamin Cowling

O-801

Mammalian adaptation markers in avian-origin H7N9 virus, a comprehensive investigation in isolates and clinical specimens from the H7N9 influenza affected area. Honglin Chen

O-802

Pathogenesis and transmission of H7N9 influenza virus in poultry. Mary Pantin-Jackwood

O-803

Lessons learned from the first case of H7N9 in Taiwan and public health implication from integrated surveillance from animals to humans. Chwan-Chuen King

Workshop 1B: Epidemiology I
Meeting Room 2.40 (Level Two)

Chairs: Aubree Gordon, School of Public Health, University of California, Berkley, California, United States of America
Ghazi Kayali, St. Jude Children's Research Hospital, Memphis, Tennessee, United States of America

Oral Presentations:

- O-804 The role of HIV in the household introduction and transmission of influenza in an urban setting, Nairobi, Kenya, 2008-2011. Gideon Emukule
- O-805 Risk factors for severe acute respiratory infection (SARI) and influenza hospitalisation in New Zealand. Michael Baker
- O-806 Pandemic H1N1 virus transmission and shedding dynamics in houses of index cases detected by active surveillance: the Ha Nam cohort. Annette Fox
- O-807 Severe influenza-associated lower respiratory tract infection in a high HIV-prevalence setting-South Africa, 2009-2011. Sibongile Walaza
- O-808 Variation in burden of influenza-associated hospitalization between two rural communities in India: results of a population-based study, 2010-2012. Shobha Broor
- O-809 Environmental correlates of H5N2 low pathogenicity avian influenza (LPAI) outbreak heterogeneity in domestic poultry in Italy, 2010-2012. Lapo Mughini-Gras

Workshop 1C: Policy and Risk Communication
Meeting Room 2.60 (Level Two)

Chairs: Michael Osterholm, Center for Infectious Disease Research and Policy, University of Minnesota, Minneapolis, Minnesota, United States of America
Doudou Diop, Institut de Recherche pour le Développement, Dakar, Senegal

Oral Presentations:

- O-810 Influenza vaccines and influenza antiviral drugs in Africa: are they available and do guidelines for their use exist? Adam Cohen
- O-811 Rapid knowledge translation during the 2009 influenza pandemic
Joel Kettner

- O-812 Communicating influenza antivirals' stockpiling strategies across Europe: a quantitative and qualitative study. Frederic Boudier
- O-813 Where backyard poultry producers seek help for sick poultry: implications for avian influenza prevention in Bangladesh. Nadia Rimi
- O-814 The World Health Organization Battle against Respiratory Viruses (BRaVe) initiative: bridge science and policy to foster innovative therapies to tackle respiratory viral infections. Nahoko Shindo
- O-815 Herald 1918 pandemic waves: importance for contemporary pandemic response strategies. Wladimir Alonso
- 15.30-16.00 **Afternoon Networking and Refreshment**
Exhibition Hall 2 (Level Zero)
- 16.00-17.30 **Concurrent Evening Workshops—B**
- Workshop 2A: Virology and Viral Receptors**
Ballroom West (Level One)
- Chairs:** Leo Poon, Centre of Influenza Research and School of Public Health, The University of Hong Kong, Hong Kong SAR, China
Husni Elbahesh, St. Jude Children's Research Hospital, Memphis, Tennessee, United States of America
- Oral Presentations:**
- O-816 Focal adhesion kinase (FAK) regulates efficient influenza A virus entry and RNA replication. Husni Elbahesh
- O-817 Airborne transmission in ferrets is associated with a change in glycan receptor specificity of an a 2, 3 sialic acid-specific 2009 pandemic influenza A virus. Kanta Subbarao
- O-818 The cell-surface mucin MUC1 is a potential receptor for influenza A virus infection. Julie McAuley
- O-819 Properties and prevalence of neuraminidases of human H3N2 influenza viruses that bind sialic acid via their catalytic site. Steve Wharton
- O-820 Host-specific differences in membrane fusion activity of H1N1 influenza A viruses. Jan Baumann
- O-821 A statistical strategy to identify recombinant viral ribonucleoprotein of avian, human, and swine influenza A viruses with elevated polymerase activity. Leo Poon

Workshop 2B: Epidemiology II
Meeting Room 2.40 (Level Two)

Chairs: Ben Cowling, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China
Saranya Sridhar, National Heart and Lung Institute, Imperial College London, Norfolk Place, London, United Kingdom

Oral Presentations:

- O-822 The dynamics of pandemic and seasonal influenza viral shedding and clinical illness in naturally acquired infections. Benjamin Cowling
- O-823 Divergent patterns of circulating influenza viruses in two regions of Northern India: when does equator not define hemisphere? Parvaiz Koul
- O-824 Higher incidence of pandemic influenza natural infection in the third wave compared with the second wave in an adult community cohort in the UK. Saranya Sridhar
- O-825 Comparative incidence and severity of infection with currently endemic human influenza A viruses: a longitudinal study. Steven Riley
- O-826 Evolution of an influenza pandemic in 13 countries on 5 continents monitored by protein microarray from neonatal screening bloodspots. Adam Meijer
- O-827 Influenza seasonality in Madagascar: the mysterious African free-runner. Wladimir Alonso

Workshop 2C: Models Informing Public Health and Pandemic Mitigation
Meeting Room 2.60 (Level Two)

Chairs: John Watson, Health Protection Agency, London, United Kingdom
Amber Smith, St. Jude Children's Research Hospital, Memphis, Tennessee, United States of America

Oral Presentations:

- O-828 Pandemic influenza mortality in developing countries is dramatically reduced by targeting interventions to those with endemic diseases. George Milne
- O-829 The social resolution of influenza transmission in a human population. Adam Kucharski

- O-830 Origins of the basic reproduction number, R_0 , and its value in influenza research. John Watkins
- O-831 The first few hundred—case and contact series investigations—experiences from the United Kingdom. Nicki Boddington
- O-832 Immunogenicity, effectiveness, and population impact of influenza vaccine in England during seasonal and pandemic periods. Andrew Hayward
- O-833 Influenza A Virus co-infection kinetics: gaining insight into pathogenesis through mathematical models. Amber Smith

17.30-19.30

Welcome Reception

Exhibition Hall 2 (Level Zero)

Sponsored by Wesgro/Cape Town and Western Cape Convention Bureau

Please join us in the exhibition hall for a traditional Cape Town Minstrel Parade. Singers, dancers, and musicians dressed in traditional costumes will open the exhibition hall in true Cape Town fashion. Face painting, crafts vendors, and a cappella choirs will create a multifaceted welcome celebration that will not be soon forgotten.

Friday, 6 September 2013

09.00-09.40

Cross-Cutting Keynote
Ballroom East (Level Zero)

The Interaction Between Influenza and Lung Co-Pathogens
*Keith Klugman, Gates Foundation, Seattle, Washington,
United States of America*

09.40-11.00

Morning Plenary Session 2—Epidemiology
Ballroom East (Level Zero)

Chair:

Gavin Smith, Program of Emerging Infectious Diseases, Duke-NUS
Graduate Medical School, Singapore

Maternal Influenza Immunization
*Saad Omer, Emory University, Schools of Public Health and Medicine,
Atlanta, GA, United States of America*

Epidemiology of Influenza in Africa
Cheryl Cohen, NICD, Cape Town, South Africa

Challenges to Estimating Influenza Mortality/Severity
*Anthony Mounts, Global Influenza Programme, Health Security and
Environment Cluster, World Health Organization, Geneva, Switzerland*

11.00-11.30

Morning networking and refreshment
Exhibition Hall 2 (Level Zero)

11.30-13.00

Mid-Day Plenary Session 2—Immunology
Ballroom East (Level One)

Chair:

Jackie Katz, National Center for Immunization and Respiratory Disease
Centers for Disease Control and Prevention, Atlanta, Georgia,
United States of America

Mx Restriction of Influenza Viruses
Otto Haller, University Hospital Freiburg, Freiburg, Germany

T Cells in the Respiratory Tract
*Thomas Braciale, University of Virginia, Charlottesville, Virginia,
United States of America*

B Cells and Influenza
*Paul G. Thomas, St. Jude Children's Research Hospital, Memphis,
Tennessee, United States of America*

13.00-15.00 **Sanofi Symposium: Four Questions About Influenza Immunization**

Ballroom West (Level One)
Box lunch served

13.00-15.00 **Lunch**—on own

15.00-16.30 **Concurrent Afternoon Workshops—C**

Workshop 3A: Evolution, Systems Biology, and Genomics

Ballroom East (Level One)

Chairs: Gillian Air, University of Oklahoma Health Sciences Center, Department of Biochemistry and Molecular Biology, Oklahoma City, Oklahoma, United States of America
Erik Karlsson, St. Jude Children's Research Hospital, Memphis, Tennessee, United States of America

Oral Presentations:

O-834 Selection on hemagglutinin imposes a genetic bottleneck during mammalian transmission of H5N1 influenza viruses. Thomas Friedrich

O-835 A systems biology approach reveals novel host response genes that differentially regulate influenza virus pathogenicity. Amie Eisfeld

O-836 The importin- $\alpha 7$ gene is a determinant of influenza virus cell tropism in the murine lung. Patricia Resa Infante

O-837 Antigenic and receptor-binding properties of recent human H3N2 viruses. Gillian Air

O-838 The obese host as a driver of influenza virus evolution. Erik Karlsson

O-839 Increased expression of $\beta 6$ integrin is associated with enhanced inflammation and lung damage during influenza infection. Victoria Meliopoulos

Workshop 3B: Antiviral Drugs and Resistance

Meeting Room 2.40 (Level Two)

Chairs: Elena Govorkova, St. Jude Children's Research Hospital, Memphis, Tennessee, United States of America
Hui-Ling Yen, Li Ka Shing Faculty of Medicine, School of Public Health, University of Hong Kong, Hong Kong SAR, China

Oral Presentations:

- O-840 Mechanism-based covalent inhibitors of influenza virus neuraminidases demonstrate broad spectrum antiviral efficacy in vitro and in vivo. Jennifer McKimm-Breschkin
- O-841 A novel I221L substitution in neuraminidase confers high level resistance to oseltamivir in clinical influenza B virus isolates. Bruno Lina
- O-842 Characterization of the R292K neuraminidase mutation that confers resistance to the neuraminidase inhibitors in a novel H7N9 human isolate. Hui-Ling Yen
- O-843 Neuraminidase inhibitor oseltamivir protects mice against lethal A/Anhui/1/2013 (H7N9) influenza virus infection. Elena Govorkova
- O-844 The compensatory role of non-neuraminidase mutations in replication or transmission of oseltamivir-resistant influenza virus. Angie Lackenby
- O-845 Drug susceptibility of zoonotic influenza viruses associated with outbreaks in humans: 2011-2013. Larisa Gubareva

Workshop 3C: Disease Burden and Health Economics

Meeting Room 2.60 (Level Two)

Chairs:

Neil Cameron, Stellenbosch University, Stellenbosch, South Africa
Ellen Fragaszy, University College London, London, United Kingdom

Oral Presentations:

- O-846 Routine PCR testing of respiratory samples from coronial autopsies increases the recognition of influenza and other respiratory viruses as causes of death. David Smith
- O-847 The burden of influenza and RSV among inpatients and outpatients in rural western Kenya, 2009-2012. Gideon Emukule
- O-848 Mortality associated with influenza and respiratory syncytial virus among children less than 5 years of age in a high HIV-prevalence setting—South Africa, 1998-2009. Stefano Tempia
- O-849 Monitoring mortality for public health action in Europe, EuroMOMO: an important tool for influenza surveillance and impact assessment. Anne Mazick

- O-850 Case fatality risk in the UK during the first two waves of the 2009 H1N1 pandemic—results from the Flu Watch Study. Ellen Fragaszy
- O-851 Increased risk of swine influenza in pig industry workers compared with the general population in the UK. Andrew Hayward
- 16.30-17.00 **Afternoon Networking and Refreshment**
Exhibition Hall 2 (Level Zero)
- 17.00-18.30 **Concurrent Evening Workshops—D**
- Workshop 4A: Innate and Adaptive Immunity**
Ballroom West (Level One)
- Chairs:** Anne Kelso, WHO Collaborating Centre for Reference and Research on Influenza, Victoria, Australia
Carolien van de Sandt, ErasmusMC, Department of Viroscience, Rotterdam, The Netherlands
- Oral Presentations:**
- O-852 A potent cytotoxic T-cell epitope in the extracellular domain of influenza B virus NB promotes virus clearance. Xavier Saelens
- O-853 Human cytotoxic T-lymphocytes directed to seasonal influenza A viruses cross-react with the newly emerging H7N9 virus. Carolien van de Sandt
- O-854 Induction of broadly neutralizing influenza virus group 2 HA antibodies through natural infection and novel vaccination strategies. Irina Margine
- O-855 Type I interferon antagonistic properties of IAV polymerase proteins determine pathogenicity. Swantje Liedmann
- O-856 Protection against influenza infection was associated with neutralizing antibodies detected in the absence of HI antibodies for pandemic H1N1 but not for H3N2 in a natural infection cohort. Hoa Le
- O-857 Inhibition of cellular p38 MAP kinase impairs influenza virus induced primary and secondary host gene responses thereby protecting mice from lethal H5N1 infection. Stephan Ludwig

Workshop 4B: Vaccines I
Meeting Room 2.40 (Level Two)

Chair: Peter Palese, Mount Sinai School of Medicine, New York, New York, United States of America
Kristin G-I Mohn, University of Bergen, Bergen, Norway

Oral Presentations:

- O-858 Effectiveness of seasonal trivalent influenza vaccine for preventing influenza virus illness among pregnant women: a population-based case-control study during the 2010-2011 and 2011-2012 influenza seasons. Mark Thompson
- O-859 Pandemic live attenuated influenza vaccines prime for a long lasting immune response. Catherine Luke
- O-860 Effectiveness of seasonal influenza vaccination of children in tropical developing Africa: a cluster-randomized trial. John Victor
- O-861 Trivalent inactivated influenza vaccine immunogenicity in HIV-infected pregnant women and transplacental antibody transfer. Marta Nunes
- O-862 A study of the local and systemic immune responses after intranasal influenza vaccination in children. Kristin G-I Mohn
- O-863 Effectiveness of 2011/12 seasonal influenza vaccines in the prevention of influenza-related hospitalization in Canadian adults: a Public Health Agency of Canada/Canadian Institutes of Health Research (PCIRN) Serious Outcomes Surveillance Network study. Shelly McNeil

Workshop 4C: Transmission and Infection Control
Meeting Room 2.60 (Level Two)

Chairs: Randy Albrecht, Icahn School of Medicine at Mount Sinai, Department of Microbiology, New York, New York, United States of America
Sun-Woo Yoon, St. Jude Children's Research Hospital, Memphis, Tennessee, United States of America

Oral Presentations:

- O-864 Biosafety and biosecurity in a biocontainment laboratory working with highly pathogenic avian influenza (HPAI). Lisa Kercher
- O-865 Utilizing endogenous microRNA to confer molecular biocontainment to gain-of-function influenza viruses: towards risk mitigation. Randy Albrecht

- O-866 Limited airborne transmission of influenza A/H7N9 virus between ferrets. Eefje Schrauwen
- O-867 Transmission bottlenecks in the ferret model differ between respiratory droplet and contact transmission routes. Wendy Barclay
- O-868 Efficacy of surgical face masks in reducing influenza virus dissemination in human exhaled breath. Nancy Leung
- O-869 Household transmission of influenza in Nicaragua. Aubree Gordon
- 18.30-21.00 **Poster Reception I—Walkabout Session I**
Exhibition Hall 2 (Level Zero)
- Walkabout Poster Session I**
Starting at poster P1-115
- 18.30-19.15 **Virology**
- Host:** Paul Digard, The Roslin Institute, University of Edinburgh, Scotland
- Posters:**
- P1-115 Novel avian-origin influenza A (H7N9) virus attaches to epithelium in both upper and lower respiratory tract of humans. Debby van Riel
- P1-176 Hemagglutinin receptor specificity and structural analyses of aerosol transmissible H5N1 viruses for inclusion in the walkabout session. Robert De Vries
- P1-182 Solving the complexities of influenza A virus infection of macrophages: macrophage galactose-type lectin (MGL) can mediate virus attachment and entry. Sarah Londrigan
- P1-252 Genetic analysis of low pathogenic avian influenza H4N6 and H9N2 viruses circulating in West Bengal, India reveals genetic diversity. Jayati Mullick
- P1-253 Generation and characterization of influenza A viruses with altered mutational frequencies. Peter Cheung
- P1-290 Resistance mutation R292K in A(H6N2) is induced by low levels of oseltamivir exposure of infected mallards. Anna Gillman
- P1-291 Recent A(H1N1)pdm09 influenza viruses encode permissive NA mutations which improve the fitness of oseltamivir-resistant H275Y variants. Aeron Hurt

- P1-350 The role of antigen presenting cells induced by influenza and pneumococcal coinfections: an in vitro model. Jonathan Hoffmann
- P1-432 Role of a hemagglutinin residue in the emergence of the 2009 H1N1 pandemic influenza vSirus. Sun-Woo Yoon
- 19.15-20.00 **Epidemiology**
- Host:** Keith Klugman, Gates Foundation, Seattle, Washington
United States of America
- Posters:**
- P1-116 Mild to moderate influenza A(H7N9) infections detected through China's National Influenza-Like-Illness Sentinel Surveillance System. Dennis Ip
- P1-152 Influenza-associated severe acute respiratory illness deaths in the WHO African Region: a case-series from 8 countries. Meredith McMorrow
- P1-153 Development of an on-line, real-time information retrieval system for influenza surveillance data collection and sharing in Mongolia. Pagbajab Nymadawa
- P1-207 Anydemic, a new kind of real-time stochastic model for decision-making: feasibility study. Jean Marie Cohen
- P1-208 Assessing outbreak containment success in case of accidental laboratory escape of potential pandemic pathogens. Marco Ajelli
- P1-334 Burden of outpatient visits due to influenza infection and cases averted by vaccination—United States, 2011/12 influenza season. Mike Jackson
- P1-335 Excess mortality associated with influenza among tuberculosis deaths in South Africa, 1999-2009. Sibongile Walaza
- P1-433 Investigation of a nosocomial influenzaA(H3N2) outbreak among geriatric patients and health care workers. Bruno Lina
- 20.00-20.45 **Vaccines**
- Host:** Veronika von Messling, INRS-Institut Armand-Frappier, Laval, Quebec, Canada and Paul Ehrlich Institute, Langen, Germany

Posters:

- P1-163 Influenza awareness and vaccine advocacy in the Asia-Pacific region: the role of the Asia-Pacific Alliance for the Control of Influenza (APACI). Lance Jennings
- P1-164 Informing future policy for influenza vaccination programs in sub-Saharan Africa: forging a path for decision-making. Doudou Diop
- P1-364 Antibody landscapes: quantifying the antibody response to vaccination and infection. Judith Fonville
- P1-413 Characteristics of vaccine failures in a randomized placebo-controlled trial of inactivated influenza vaccine in children. Benjamin Cowling
- P1-414 Seasonal influenza vaccine uptake in Kenya in 2012: does father involvement make a difference? Nancy Otieno

Saturday, 7 September 2013

08.00-11.30

Feature Cornerstone Session: Animal-Human Interface
Ballroom East (Level One)

Chair:

Malik Peiris, Centre of Influenza Research, School of Public Health,
University of Hong Kong, Hong Kong SAR, China

**Mammalian Adaptation of Influenza Viruses: What We Know and
What We Don't**

*Terrence Tumpey, Immunology and Pathogenesis Branch, Influenza
Division, Centers for Disease Control and Prevention, Atlanta, Georgia,
United States of America*

**Ecology, Evolution, and Human Health Risks From Emerging Swine
Influenza Viruses**

*Richard Webby, Infectious Diseases, St. Jude Children's Research
Hospital, Memphis, Tennessee, United States of America*

Risk Assessing Animal Viruses for Pandemic Threat

*Nancy Cox, WHO Collaborating Center for Surveillance Epidemiology and
Control of Influenza, National Center for Immunization and Respiratory
Diseases, Coordinating Center for Infectious Disease, Influenza Division,
Centers for Disease Control and Prevention, Atlanta, Georgia,
United States of America*

**Human Disease Caused by Avian Influenza A/H7N9 and A/H5N1 Virus
Infections**

*Speaker: Peter Horby, Oxford University Clinical Research Unit -
Wellcome Trust Major Overseas Programme, Hanoi, Vietnam and
Singapore Infectious Diseases Initiative, Singapore*

The Pros and Cons of Influenza Gain of Function Studies

Panelists include:

To discuss GOF and impact on publishing we have

- *Yoshihiro Kawaoka, University of Wisconsin Madison
School of Veterinary Medicine, Madison, Wisconsin,
United States of America*
- *Charles Russell, St. Jude Children's Research Hospital, Memphis,
Tennessee, United States of America*
- *Adolfo Garcia-Sastre, Mount Sinai School of Medicine, New York,
New York, United States of America*
- *Michael Osterholm, Center for Infectious Disease Research and
Policy, University of Minnesota, Minneapolis, Minnesota,
United States of America*
- *Marc Lipsitch, Harvard University, Cambridge, Massachusetts,
United States of America*



- *Jesse Bloom, Fred Hutchinson Cancer Research Center, Seattle, Washington, United States of America*

11.30-12.00

Scholarship Awards Ceremony

12.00-13.00

isirv Annual General Meeting (AGM)

13.00-19.00

Free Afternoon—Discover Cape Town and Western Cape

Discover this dazzling city, sip world class wines as you explore the world renowned winelands, or take a scenic tour down the coast to the meeting point of 2 oceans. *Options* delegates are free to explore this wonderful area. A selection of tour options have been arranged with special prices negotiated for the delegates. These tours are at the discretion of the delegate and fees apply, so grab some colleagues and schedule your tour early.

Sunday, 8 September 2013

09.00-9.40

Cross-Cutting Keynote:
Ballroom East (Level One)

Universal Epitopes, Their Application to Vaccines and Therapy, and Importance in Influenza Epidemiology

Peter Palese, Icahn School of Medicine at Mount Sinai, New York, New York, United States of America

09.40-11.00

Morning Plenary Session 3—Diagnostics
Ballroom East (Level One)

Chair:

Wolfgang Preiser, Stellenbosch University and National Health Laboratory Service, Stellenbosch, South Africa

Real-Time PCR

Stephen Lindstrom, National Center for Immunization for Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia, United States of America

Influenza Whole Genome Analysis and Its Role in Diagnostics, Patient Care, and Public Health

Monica Galiano, Health Protection Agency, London, United Kingdom

Clinical Relevance of Influenza Viral Load Measurement

Nelson Lee, Stanley Ho Center for Emerging Infectious Diseases, The Chinese University of Hong Kong, Hong Kong SAR, PRC

11.00-11.30

Morning Networking and Refreshment
Exhibition Hall 2 (Level Zero)

11.30-13.00

Mid-Day Plenary Session 3—Clinical

Chair:

Marc Mendelson, Groote Schuur Hospital, University of Cape Town, Cape Town, South Africa

Brave and ISARIC: New Paradigms for Responding to Global Respiratory Threats

Nahoko Shindo, World Health Organization, Geneva, Switzerland

Influenza and Pregnancy

Shigeru Saito, Department of Obstetrics and Gynecology, Graduate School of Medicine and Pharmaceutical Science for Research, University of Toyama, Toyama Prefecture, Japan

Sunday, 8 September 2013 (cont)

The Many Faces of Influenza

Fred Hayden, University of Virginia School of Medicine, Charlottesville, Virginia, United States of America

13.00-14.00

Lunch—on own

14.00-15.30

Concurrent Afternoon Workshops—E

Workshop 5A: Animal-Human Interface

Ballroom East (Level One)

Chairs:

Marietjie Venter, National Institute for Communicable diseases, Sandringham, South Africa
Amalya Mangiri, US Centers for Disease Control and Prevention, Jakarta, Indonesia

Oral Presentations:

O-870

Reduction in airborne virus using modifications of simulated home slaughter of asymptomatic H5N1 HPAI virus infected chickens. David Swayne

O-871

Surveillance for human infections with avian influenza A viruses among live bird market workers and their household members in Dhaka city area, Bangladesh. Sadia Afreen

O-872

TRPM8 and susceptibility to highly pathogenic avian influenza H5N1. Peter Horby

O-873

Characterization of H3N2pM-like and novel reassortant H3N1 swine viruses with pandemic H1N1 2009-like segments isolated in Korea. Philippe Noriel Pascua

O-874

Human infections with avian influenza H7N1 and H5N2 strains during outbreaks in ostriches. Marietjie Venter

O-875

Risk analysis of H2N2 viruses from the avian reservoir. Jeremy Jones

Workshop 5B: Vaccines II

Meeting Room 2.40 (Level Two)

Chairs:

Dave Wentworth, J. Craig Venter Institute, Rockville, Maryland, United States of America

Florian Krammer, Icahn School of Medicine at Mount Sinai, New York,
New York, United States of America

Oral Presentations

- O-876 Vaccine-induced anti-HA2 antibodies promote virus entry and enhance influenza A virus pathology. Surender Khurana
- O-877 Synthetic generation of Influenza vaccine viruses for rapid response to pandemics. Pirada Suphaphiphat
- O-878 Structure and accessibility of HA trimers on intact 2009 H1N1 pandemic influenza virus to stem region-specific neutralizing antibodies. Audray Harris
- O-879 Universal influenza vaccinia vaccine requires CD4+ T cells for heterosubtypic protection. Sophie Valkenburg
- O-880 How we can use TLR2-agonist-based adjuvants to improve protection against influenza epidemics and pandemics. Brendon Chua
- O-881 Evaluation of influenza A and B viruses isolated and passaged in the qualified MDCK suspension cell line (MDCK33016PF) and embryonated chicken eggs. Heidi Peck

Workshop 5C: Diagnostics

Meeting Room 2.60 (Level Two)

Chairs:

Lance Jennings, Microbiology Health Laboratories, Canterbury Health Laboratories, Christchurch, New Zealand
Amy Krafft, National Institute of Allergy and Infectious Diseases
Bethesda, Maryland, United States of America

Oral Presentations:

- O-883 Poor correlation of influenza viral load between swabs of clinical samples from the 2011-2012 influenza season in Belgium highlights the importance of standardized sample collection. Liesbeth Van Wesenbeeck
- O-884 Quantitative influenza diagnostic testing (QIDT) as a novel biomarker for the monitoring of disease activity at the point-of-care. Barbara Rath
- O-885 Do case definitions affect the prediction of influenza virus in different seasons in north India? Rahul Srivastava
- O-886 Diagnosis of influenza A/H1N1pdm virus genome by hairpin-type peptide nucleic acid chromatography. Kunihiro Kaihatsu

O-887 Better tests, better guidance, better practice: outcomes of a strategy for improving rapid influenza diagnostic tests. Daniel Jernigan

O-882 H5N1-SeroDetect EIA and rapid test: a novel differential diagnostic assay for serodiagnosis of H5N1 infections and surveillance. Surender Khurana

15.30-16.00 **Afternoon Networking and Refreshment**
Exhibition Hall 2 (Level Zero)

16.00-17.30 **Concurrent Evening Workshops—F**

Workshop 6A: Animal Influenza and Models
Ballroom East (Level One)

Chairs: David Suarez, US Department of Agriculture, Athens, Georgia, United States of America
Marietta Ducatez, INRA UMR, Toulouse, France

Oral Presentations:

O-888 Quantifying the global antigenic and genetic evolution in swine influenza A viruses and evaluating the relative zoonotic potential to humans. Nicola Lewis

O-889 Ocular-only aerosol inoculation of ferrets with H7 and H5 influenza viruses. Jessica Belser

O-890 Characterization of the 2012 highly pathogenic avian influenza H7N3 virus isolated from poultry in Mexico: pathobiology and vaccine protection. David Suarez

O-891 The first detection and isolation of avian influenza viruses in Antarctica. Aeron Hurt

O-892 Detection of multiple genotypes of swine influenza viruses in southern China, 2009-2012. Huyi Liang

O-893 Coordinated surveillance of influenza viruses in European pigs: enhanced virological and epidemiological analysis from the European Surveillance Network for Influenza in Pigs (ESNIP3). Sharon Brookes

Workshop 6B: Surveillance I
Meeting Room 2.40 (Level Two)

Chairs: Sue Huang, Institute of Environmental Science and Research,
Wellington, New Zealand
Maria de Lourdes Aguiar Oliveira, Instituto Oswaldo Cruz, Fiocruz, Rio de
Janeiro, Brazil

Oral Presentations:

- O-894 Southern hemisphere influenza and vaccine effectiveness research and surveillance (SHIVERS) in New Zealand. Sue Huang
- O-895 Applications of pyrosequencing in the molecular surveillance of influenza. Yi-Mo Deng
- O-896 The Global Influenza Hospital Surveillance Network (GIHSN): a step forward. Joan Puig-Barberà
- O-897 Etiology of two-years hospital-based surveillance of severe acute respiratory infection in Madagascar. Norosoa Harline Razanajatovo
- O-898 Establishing a web-based application for respiratory pathogen biosurveillance within a diverse global partner network. Captain Michael J. Cooper
- O-899 Patterns of influenza circulation—Latin America and the Caribbean, 2010-2012. Mauricio Cerpa

Workshop 6C: Clinical Management
Meeting Room 2.60 (Level Two)

Chairs: Arnold Monto, School of Public Health, University of Michigan, Ann Arbor, MI, United States of America
Robin Mason, Respiratory Disease Branch, DMID/NAID/NIH, Bethesda, Maryland, United States of America

Oral Presentations:

- O-900 Post-pandemic Review of anti-Influenza Drug Effectiveness (PRIDE Study): an individual patient data (IPD) meta-analysis investigating the impact of antiviral use on severe patient outcomes during the 2009-2010 influenza A(H1N1)pdm09 pandemic. Stella Muthuri
- O-901 Indirect effects of oseltamivir treatment of an influenza-infected index case-patient on secondary household transmission: a randomized placebo-controlled clinical trial in a crowded urban area in Bangladesh. Alicia Fry

- O-902 Impact of pneumococcal co-infection on disease severity and antibiotic prescriptions in infants and children with influenza: an inception cohort study. Barbara Rath
- O-903 Drug dispensing practices for acute respiratory infections and availability of oseltamivir through pharmacies, in Dhaka, Bangladesh. Fahmida Chowdhury
- O-904 INSIGHT FLU002 and FLU003, an international cohort study of influenza A(H1N1)pdm09 virus infection, 2009-2012. Dominic Dwyer
- O-905 A phase 2, randomized, double blind, placebo-controlled, multicenter study evaluating the safety and pharmacokinetics of different dosing regimens of favipiravir (T-705) in adult subjects with uncomplicated influenza. Carol Epstein
- 17.30-21.00 **Poster Reception II—Walkabout session II**
Exhibition Hall 2 (Level Zero)
- Walkabout Poster Session II**
Starting at poster LBA-P2-056
- 18.00-19.00 **Surveillance**
- Host:** David Swayne, United States Department of Agriculture—Agricultural Research, Southeast Poultry Research Laboratory, Athens, Georgia, United States of America
- Posters:**
- LBA-P2-057 Molecular epidemiology of influenza A virus infections in swine at agricultural fairs in the United States. Andrew Bowman
- P2-495 Did intensified surveillance lead to increased detection of human infections with highly pathogenic avian influenza A(H5N1) virus in East Jakarta, Indonesia? Amalya Mangiri
- P2-496 Risk analysis of a novel avian H3N8 virus isolated from harbor seals. Erik Karlsson
- P2-602 Shedding duration: the key risk factor for spread of highly pathogenic H5N1 avian influenza viruses over long distances by ducks? Mariette Ducatez
- P2-603 Susceptibility of bank voles (*Myodes glareolus*) to infection with H5N1 and H7N1 highly pathogenic avian influenza viruses.

Aurora Romero Tejada

- P2-690 Etiology of community-acquired pneumonia among hospitalized children in the United States: preliminary data from the CDC Etiology of Pneumonia in the Community (EPIC) study. Seema Jain
- P2-691 The role of influenza infection and other respiratory pathogens: a contribution for improving surveillance of maternal mortality. Maria de Lourdes Aguiar Oliveira
- P2-692 Setting up of a surveillance platform for acute respiratory infections in rural North India. Ritvik Amarchand
- P2-693 Epidemiologic, laboratory, and clinical characteristics of human cases of influenza A/H5N1 in Vietnam, 2003- 2013. Nguyen Yen

19.00-20.00

Therapies, Diagnostics, and Management

Host: Wolfgang Preiser, Stellenbosch University and National Health Laboratory Service, Stellenbosch, South Africa

Posters:

- LBA-P2-056 Cost-effectiveness of a quadrivalent versus trivalent influenza vaccine in the United States. Pieter de Boer
- P2-463 Patterns of influenza A/H1N1 infection and immunity in the Netherlands before and after the 2009 pandemic by analysis of cross-sectional hemagglutinin microarray data. Michiel van Boven
- P2-464 Estimating the protective effect of hemagglutination-inhibition antibody against pandemic influenza A(H1N1) infections. Joseph Wu
- P2-548 A universal influenza virus vaccine based on the stalk domain of the hemagglutinin. Florian Krammer
- P2-549 Live virus and vector-based influenza vaccines for induction of antibodies specific for stalk domain of hemagglutinin. Eun Hye Kim
- P2-568 Subtyping and H275Y oseltamivir-resistant H1N1pdm09 influenza virus detection by xTAG fluorescent beads technology. Kirill Krasnoslobodtsev
- P2-569 Development of monoclonal antibodies specific for H5 HA and their application to rapid detection of influenza A/H5N1 virus. Hitoshi Takahashi

- P2-614 Predicting mortality among hospitalized children with respiratory illness in western Kenya, 2009 -2012. Gideon Emukule
- P2-615 Physician's knowledge, attitudes, and practices for pandemic, seasonal, and avian influenza in Indonesia. Amalya Mangiri
- P2-713 Is it possible to fight influenza by targeting intracellular redox state? Anna Teresa Palamara
- P2-714 Therapeutic or prophylactic treatment with an HA-stem antibody (VIS410) limits respiratory droplet transmission of influenza virus in the ferret model. Kanta Subbarao

Monday, 9 September 2013

09.00-9.40

Cross-Cutting Keynote:
Ballroom East (Level One)

Host Genetics of Human Influenza

Paul Kellam, Wellcome Trust Sanger Institute, Hinxton, Cambridge, United Kingdom

09.40-11.00

Morning Plenary Session 4—Therapeutic Interventions
Ballroom East (Level One)

Chair:

Stephan Ludwig, University of Muenster, Muenster, Germany

Overview on Existing Therapies/Clinical Experience With Neuraminidase Inhibitors

Michael Ison, Northwestern University, Evanston, Illinois, United States of America

Overview on the Role of Immunomodulation, Cellular Factors, and Proteases

Béatrice Riteau, Faculte de Medecine de Laennec, Unité VirPath Lyon, France

Polymerase Inhibitors

Martin Schwemmler, University Hospital Freiburg, Freiburg, Germany

11.00-11.30

Morning Networking and Refreshment
Exhibition Hall 2 (Level Zero)

11.30-13.00

Mid-Day Plenary Session 4—Vaccines
Ballroom East (Level One)

Chair:

Nancy Cox, WHO Collaborating Center for Surveillance Epidemiology and Control of Influenza, Coordinating Center for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia, United States of America

Overview of Vaccine Effectiveness Issues and Controversies

Alain Moren, EpiConcept, Paris, France

Next Generation of Influenza Vaccines

Rick Bright, HHS/OS/ASPRA BARDA, Washington, District of Columbia, United States of America

Monday, 9 September 2013 (cont)

Clinical Aspects in the Development and Licensing of the Russian-Based Live Attenuated Influenza Vaccines for Pandemic Influenza Preparedness in Developing Countries

Larisa Rudenko, Institute of Experimental Medicine of the NorthWest Branch of the Russian Academy of Medical Sciences, St Petersburg, Russia

13.00-14.00

Lunch—on own

14.00-15.30

Concurrent Morning Workshops—G

Workshop 7A: Late Breaking Abstracts

Ballroom East (Level One)

Chairs:

Kanta Subbarao, National Institutes of Health, Bethesda, Maryland, United States of America

Diane Post, Respiratory Diseases Branch DMID/NIAID/NIH/DHHS, Bethesda, Maryland, United States of America

Oral Presentations:

LBA-O-001

Progress in building equitable influenza vaccine production capacity under the Global Action Plan (GAP) for influenza vaccines framework. Jan Hendriks

LBA-O-002

Effectiveness of seasonal influenza vaccination of children in Senegal: year two of a cluster-randomized trial. John Victor

LBA-O-003

Do changes in spirometry correlate with the severity and duration of infection in volunteers experimentally inoculated with influenza, RSV, and HRV in the Human Viral Challenge Model. John Forni

LBA-O-004

The association of age and clinical disease in ferrets infected with influenza A viruses. Kanta Subbarao

LBA-O-005

Patterns of genetic reassortment between endemic swine influenza viruses and pandemic A(H1N1)2009 viruses in Vietnamese pig population. Nobuhiro Takemae

LBA-O-006

A mouse model to assess the utility of antiviral treatments for prevention of contact-dependent transmission of influenza A virus. Kathryn Edenborough

Workshop 7B: Surveillance II
Meeting Room 2.40 (Level Two)

Chairs: Mark Tompkins, University of Georgia, Athens, Georgia,
United States of America
Pedro Jimenez-Bluhm, School of Veterinary Medicine, University of
Wisconsin-Madison, Madison, Wisconsin, United States of America

Oral Presentations:

- O-906 Incursion of clade 2.3.2.1 avian influenza viruses into the Mekong Delta of Vietnam. Julie Bryant
- O-907 Improving the representativeness of influenza viruses to inform seasonal influenza vaccine strain selection. Caroline Brown
- O-908 Influenza epidemiology in Bangladesh: a pre- and post-pandemic comparison of the national hospital-based influenza surveillance findings (2007-2013). Mohammad Aleem
- O-909 Surveillance and characterization of influenza viruses circulating in the central region of Chile. Pedro Jimenez-Bluhm
- O-910 WHO efforts on global capacity of influenza virus detection and anti-viral susceptibility monitoring. Terry Besselaar
- O-911 Circulating seasonal and pandemic influenza A and influenza B virus genotypes from 2009-2012: vaccine strain match and break-through infections in South Africa. Florette Treurnicht

Workshop 7C: Novel Therapeutics
Meeting Room 2.60 (Level Two)

Chairs: Oliver Planz, Eberhard Karls University, Tübingen, Germany
Tatiana Branovich, St. Jude Children's Research Hospital, Memphis,
Tennessee, United States of America

Oral Presentation:

- O-913 TCN-032 (anti-M2e mAb) treatment leads to reductions in clinical symptoms and viral shedding in a human influenza challenge study. Eleanor Ramos
- O-914 Carrageenan, a broad anti-viral active polymer, in combination with a specific influenza inhibitor—a novel concept for therapeutic interventions. Sabine Nakowitsch

- O-915 Resistance to a novel antiviral drug T-705 through increased fidelity of influenza A virus polymerase. Tatiana Baranovich
- O-916 A novel antiviral drug Ingavirin® restores the cellular antiviral response in influenza A virus infected cells and enhances viral clearance in ferrets. Andrej Egorov
- O-917 Influenza viruses and host cell signaling—identification and preclinical evaluation of novel targets for antiviral therapy. Oliver Planz
- O-912 Host gene discovery and drug repurposing for treatment of emerging and re-emerging influenza virus. Mark Tompkins
- 15.30-16.00 **Afternoon Networking and Refreshment**
Exhibition Hall 2 (Level Zero)
- 16.00-17.30 **Closing Plenary Session—Public Health**
Ballroom East (Level One)
- Chair:** Marc Mendelson, Groote Schuur Hospital, University of Cape Town, Cape Town, South Africa
- Usefulness of Modeling for Decision Making on Influenza**
Guy Walker, Department of Health, London, United Kingdom
- Non-Pharmaceutical Interventions—Effectiveness and Consequences**
Benjamin Cowling, University of Hong Kong, Hong Kong, China, SAR
- Update on Global Vaccine Policy**
Marie-Paule Kieny, World Health Organization, Geneva, Switzerland