

# 1<sup>st</sup> International Meeting on Respiratory Pathogens (IMRP) 2015

Furama RiverFront, Singapore

Organised by International Society for Influenza and other Respiratory Virus Diseases (ISIRV)

## Day 1 (Wednesday, 2 September 15)

08:00 AM	Registration (Foyer) & Poster Setup (Jupiter Room)	
09:00 AM	<b>Venus</b>	
	Welcome Address by IMRP Chairperson <i>A/Prof Vernon Lee</i>	
	Opening Remarks by ISIRV Chairperson <i>A/Prof Lance Jennings</i>	
	Opening Remarks by Guest-of-Honour <i>A/Prof Benjamin Ong</i> <i>Director of Medical Services, Ministry Of Health, Singapore</i>	
09:30 AM	<b>Keynote Address</b>	
	"Global Health Responses to Emerging Threats and the BRAVE Initiative" <i>Dr Sylvie Briand (World Health Organization)</i>	
10:15 AM	Teabreak	
10:45 AM	<b>Plenary I</b>	
	"Emerging Respiratory Viruses of Concern" <i>Prof Malik Peiris (University of Hong Kong) (Hong Kong)</i>	
11:15 AM	<b>Plenary II</b>	
	"Emerging Issues among Respiratory Bacteria" <i>Prof David Murdoch (University of Otago) (New Zealand)</i>	
11:45 AM	<b>Mercury Room</b>	
	<b>Lunch Session on Ebola</b>	
	Chairperson: <i>A/Prof Teo Yik Ying (CIDER) (Singapore)</i>	
	<ul style="list-style-type: none"> <li>"Advances in Ebola Virus Vaccines" <i>Prof Frederick Hayden (University of Virginia) (US)</i></li> <li>"Host jump of emerging viruses: Flu, MERS-CoV and Ebola" <i>A/Prof Yi Shi (Chinese Academy of Sciences) (China)</i></li> <li>"Clinical care of patients with Ebola Virus Disease" <i>A/Prof Robert Fowler (University of Toronto) (Canada)</i></li> <li>"Clinical Management of Ebola Virus Disease Patients in the U.S. and Europe" <i>A/Prof Timothy Uyeki (US Centers for Disease Control and Prevention) (US)</i></li> <li>"Ebola: Lessons for S.E. Asia" <i>Prof Richard Coker (London School of Hygiene and Tropical Medicine &amp; National University of Singapore) (Singapore)</i></li> </ul>	
1:30 PM	<b>Venus I/II</b>	<b>Venus III</b>
	<b>Parallel Session 1</b>	<b>Parallel Session 2</b>
	"Burden and Epidemiology of Acute Respiratory Infections" Chairperson: <i>Dr Nikki Shindo (World Health Organization) (Switzerland)</i>	"Immunology of Respiratory Pathogens (including Disease Pathogenesis and Host Dynamics)" Chairperson: <i>Prof Menno de Jong (University of Amsterdam) (Netherlands)</i>
	<ul style="list-style-type: none"> <li>"Epidemiology of Influenza in a household cohort study" [Invited Speaker] <i>Prof Ben Cowling (University of Hong Kong) (Hong Kong)</i></li> <li>"Community-Acquired Pneumonia and Etiologies in the Hospitalized Setting" [Invited Speaker] <i>Dr Seema Jain (US Centers for Disease Control and Prevention) (US)</i></li> <li>"Clinical Presentations and Risk Factors for Mortality of Severe Influenza Infections in a Tertiary Care Hospital, Singapore, 2011–2014" [ASN024] <i>Hanley Ho (Tan Tock Seng Hospital) (Singapore)</i></li> <li>"Clusters of human infections with avian influenza A(H7N9) in China, March 2013 – November 2014" [ASN121] <i>Bo Liu (Chinese Center for Disease Prevention and Control) (China)</i></li> </ul>	<ul style="list-style-type: none"> <li>"Protective immunity in the human airway against respiratory viral infections" [Invited Speaker] <i>Dr Chris Chiu (Imperial College London) (UK)</i></li> <li>"Immunology of influenza and pneumococcal disease" [Invited Speaker] <i>Prof Lau Yu Lung (University of Hong Kong) (Hong Kong)</i></li> <li>"Influenza Virus and Respiratory Syncytial Virus Infections in Immunocompetent and Immunocompromised Patients and Ferrets" [ASN178] <i>Koert Stittelaar (Viroclinics Biosciences) (Netherlands)</i></li> <li>"Cell Cycle Independent Role of Cyclin D3 in Host Restriction of Influenza Virus Infection" [ASN068] <i>Ying Fan (University of Hong Kong Pasteur Research Pole) (Hong Kong)</i></li> </ul>

	<ul style="list-style-type: none"> <li>"Epidemiological Evaluation of Infants and Young Children with Laboratory-Confirmed Respiratory Syncytial Virus Infection in England, 2010-2014" [ASN045] <i>Rachel Reeves (Farr Institute of Health Informatics Research) (UK)</i></li> </ul>	<ul style="list-style-type: none"> <li>"Multi-strain Antibody Response following Acute Influenza A: Implications for Seroepidemiology" [ASN105] <i>Stacy Todd (Liverpool School of Tropical Medicine) (UK)</i></li> </ul>
		<ul style="list-style-type: none"> <li>"Mycobacterium tuberculosis Acetyltransferase reduces the oxidative stress response through expression of peroxisomal membrane transporter protein" [ASN012] <i>Geetanjali Ganguli (KIIT University) (India)</i></li> </ul>
3:45 PM	Teabreak	
4:00 PM	<b>Venus I/II</b>	<b>Venus III</b>
	<b>Parallel Session 3</b>	<b>Parallel Session 4</b>
	"Advances in Respiratory Pathogen Vaccines" Chairperson: <i>Dr Jean-Michel Heraud (Institut Pasteur) (Madagascar)</i>	"Evolution and Molecular Epidemiology of Respiratory Infections" Chairperson: <i>A/Prof Gavin Smith (Duke-NUS Medical School) (Singapore)</i>
	<ul style="list-style-type: none"> <li>"Clinical Assessment of Simian Adenovirus ChAdOx1 Expressing Conserved Influenza A Antigens in a Prime:Boost Regimen with MVA" [ASN010] <i>Lynda Coughlan (University of Oxford) (UK)</i></li> <li>"Cellular immune responses after live attenuated influenza vaccination in children, a clinical trial" [ASN189] <i>Kristin Greve-Isdahl Mohn (University of Bergen) (Norway)</i></li> <li>"Development of a Universal Live-Attenuated Influenza H1N1 Vaccine Strain" [ASN011] <i>Ke Xu (Institut Pasteur of Shanghai) (China)</i></li> <li>"Quantifying Protection Against Influenza Virus Infection Measured By Hemagglutination-inhibition Assays In Vaccine Trials" [ASN098] <i>Xiahong Zhao (Saw Swee Hock School of Public Health) (Singapore)</i></li> <li>"Molecular Epidemiology and Clinical Characterization of Influenza B among Pediatric Acute Respiratory Infection in Central Vietnam during 2007-2013 seasons" [ASN199] <i>Keisuke Yoshihara (Nagasaki University) (Japan)</i></li> </ul>	<ul style="list-style-type: none"> <li>"Bioinformatics of respiratory pathogens: From sequence to structure to molecular mechanisms" [Invited Speaker] <i>Dr Sebastian Maurer-Stroh (A*STAR Bioinformatics Institute) (Singapore)</i></li> <li>"Selective Bottlenecks Shape Evolutionary Pathways Taken During Mammalian Adaptation Of A 1918-Like Avian Influenza Virus" [ASN037] <i>Louise Moncla (University of Wisconsin-Madison) (US)</i></li> <li>"Predicting The Antigenic Evolution Of Pandemic H1N1 Influenza Virus In Humans Using Diversifying Selection Analysis" [ASN087] <i>Alexandra Lee (J. Craig Venter Institute) (US)</i></li> <li>"Genetic Drift of Hemagglutinin (HA) of Influenza A(H3N2) Viruses Circulating in Cameroon Between 2010 and 2013" [ASN086] <i>Richard Njouom (Centre Pasteur of Cameroon) (Cameroon)</i></li> <li>"First description of arenaviruses endemic to Southeast Asia with evidence of human respiratory disease" [ASN073] <i>Philippe Buchy (GlaxoSmithKline Vaccines Asia Pacific) (Singapore)</i></li> </ul>
6:00 PM	<b>Jupiter Room</b>	
	<b>Poster Session I with Authors (Networking Drinks)</b>	
		<b>Venus III</b>
		<b>Expert Dialogue on Infection Control</b>
		"Evidence-based Measures for Personal Protective Equipment and Hygiene for Healthcare Workers and the Public against Respiratory Infections" <i>(Limited Slots Available)</i> Chairperson: <i>Dr Hsu Li Yang (Mount Elizabeth Novena Hospital) (Singapore)</i>
		<ul style="list-style-type: none"> <li><i>Dr Nikki Shindo (World Health Organization) (Switzerland)</i></li> <li><i>A/Prof Timothy Uyeki (US Centers for Disease Control and Prevention) (US)</i></li> <li><i>A/Prof Brenda Ang (Tan Tock Seng Hospital) (Singapore)</i></li> </ul>
7:30 PM	Appreciation Dinner <i>(Invited Speakers Only)</i>	
9:00 PM	End of Day 1	

**Day 2 (Thursday, 3 September 15)**

08:00 AM	Registration (Foyer) & Poster Setup (Jupiter Room)	
08:30 AM	<b>Venus</b>	
	<b>Plenary III</b>	
	"A Vaccine Surrogate for the Prevention of RSV Disease" <i>Dr JoAnn A. Suzich (MedImmune) (US)</i>	
09:00 AM	<b>Plenary IV</b>	
	"New Anti-viral Therapies for RVIs" <i>Prof Frederick Hayden (University of Virginia) (US)</i>	
09:30 AM	Teabreak	
09:45 AM	<b>Venus I/II</b>	<b>Venus III</b>
	<b>Parallel Session 5</b>	<b>Parallel Session 6</b>
	"AVG Session – Treatment Options for Respiratory Infections"	"New Advances in Diagnostics"
	Co-Chairpersons: <i>Prof Nelson Lee &amp; A/Prof Aeron Hurt</i>	Chairperson: <i>A/Prof Lance Jennings (Canterbury Health Laboratories &amp; University of Otago) (New Zealand)</i>
	<ul style="list-style-type: none"> <li>"Treatment options for influenza virus infections" [Invited Speaker] <i>Prof Nelson Lee (Chinese University of Hong Kong) (Hong Kong)</i></li> <li>"Influenza antivirals - resistance and new compounds" [Invited Speaker] <i>A/Prof Aeron Hurt (Peter Doherty Institute for Infection and Immunity) (Australia)</i></li> <li>"Safety And Pharmacokinetics In Healthy Volunteers Of The Anti-RSV Antiviral AK0529" [ASN062] <i>Stephen Toovey (Ark Biosciences) (Switzerland)</i></li> <li>"Development of an Iminosugar-Based Therapeutic as a Broad Spectrum Antiviral" [ASN164] <i>Aruna Sampath (Unither Virology LLC) (US)</i></li> <li>"Therapeutic Antibodies Against Influenza A and Influenza B" [ASN204] <i>Man-Wah Tan (Genentech Inc) (US)</i></li> <li>"Effectiveness of a Patient-Based Health Education Intervention in Reducing Antibiotic Use For Acute Upper Respiratory Tract Infections in the Private Sector Primary Care Setting in Singapore" [ASN048] <i>Magdalene Lee (Yong Loo Lin School of Medicine) (Singapore)</i></li> </ul>	<ul style="list-style-type: none"> <li>"GABRIEL study: case-control pneumonia multicenter pilot study" [Invited Speaker] <i>Dr Glaucia Paranhos Baccalà (Fondation Merieux) (France)</i></li> <li>"Aetiology of childhood pneumonia: experience from the PERCH study" [Invited Speaker] <i>Prof David Murdoch (University of Otago) (New Zealand)</i></li> <li>"Influenza Virus RNA In Aerosols In Patient Rooms" [ASN111] <i>Nancy Hiu Lan Leung (The University of Hong Kong) (Hong Kong)</i></li> <li>"Influenza Virus And RSV ViroSpot™ Assays For Direct Monitoring Of Phenotypic Resistance And Virus Neutralization" [ASN131] <i>Carel Van Baalen (Viroclinics Biosciences) (Netherlands)</i></li> <li>"New Antiviral Inhibitors to Influenza Neuraminidase Revealed by Mass Spectrometry" [ASN208] <i>Kevin Downard (University of New South Wales) (Australia)</i></li> </ul>
11:45 AM	<b>Mercury Room</b>	
	<b>Lunch Session on MERS-CoV</b>	
	Chairperson: <i>A/Prof Vernon Lee (National University of Singapore) (Singapore)</i>	
	<ul style="list-style-type: none"> <li>"MERS: history and options for intervention" <i>Prof Ab Osterhaus (University of Veterinary Medicine Hannover, Foundation) (Germany)</i></li> <li>"Epidemiology and Transmission of MERS" <i>Dr Maria Van Kerkhove (Institut Pasteur) (France)</i></li> <li>"Unravelling the key drivers of MERS-CoV transmission" <i>A/Prof Simon Cauchemez (Institut Pasteur) (France)</i></li> <li>"MERS CoV Outbreak in South Korea" <i>A/Prof Yeon-Sook Kim (Chungnam National University Hospital) (S. Korea)</i></li> <li>"Results of povidone-iodine against Ebola, MERS, SARS and Influenza confirms new model virus, MVA virus, in EN14476 testing standard" <i>A/Prof Maren Eggers (Laboratory Enders &amp; Partners Stuttgart) (Germany)</i></li> </ul>	

1:45 PM	<b>Venus I/II</b>	<b>Venus III</b>
	<b>Parallel Session 7</b>	<b>Parallel Session 8</b>
	"Surveillance Systems and Public Health Prevention Strategies"	"AVG Session – Clinical Management of SARI / ALRIs including Critical Care"
	Chairperson: <i>Dr Daniel Jernigan (US Centers for Disease Control and Prevention) (US)</i>	Chairperson: <i>Prof Lau Yu Lung (University of Hong Kong) (Hong Kong)</i>
	<ul style="list-style-type: none"> <li>"Surveillance and Vaccination Strategies of Respiratory Infectious Diseases in China: Success and Challenges" [Invited Speaker] <i>Dr Luzhao Feng (Chinese Center for Disease Control and Prevention) (China)</i></li> <li>"Human, Environmental and Animal Surveillance of Influenza A(H5N1) Virus in Cambodian Live Poultry Markets" [ASN138] <i>Srey Viseth Horm (Institute Pasteur de Cambodia) (Cambodia)</i></li> <li>"Human And Non-human Influenza Surveillance In Uganda From 2008 To 2014 - A One Health Approach" [ASN038] <i>Derrick Mimbe (Makerere University Walter Reed Project) (Uganda)</i></li> <li>"Clinical Severity of Human Infections of Avian Influenza A(H7N9) Across Three Epidemics in Mainland China" [ASN220] <i>Peng Wu (University of Hong Kong) (Hong Kong)</i></li> <li>"Haemophilus haemolyticus: differentiation from NTHi and role in the respiratory tract" [ASN225] <i>Janessa Pickering (University of Western Australia) (Australia)</i></li> </ul>	<ul style="list-style-type: none"> <li>"Clinical Management of SARI Immuno-modulatory Therapies" [Invited Speaker] <i>Prof David Hui (Chinese University of Hong Kong) (Hong Kong)</i></li> <li>"Advances in Critical Care in Severe Acute Respiratory Infections" [Invited Speaker] <i>A/Prof William A. Fischer (University of North Carolina Chapel Hill) (US)</i></li> <li>"Enterovirus D68, cause of severe respiratory disease in children and association with acute flaccid paralysis cases, Norway 2014" [ASN059] <i>Karoline Bragstad (Norwegian Institute of Public Health) (Norway)</i></li> <li>"Enterovirus D68 and Other Enterovirus Genotypes Identified in South African Patients Hospitalized with Severe Acute Respiratory Illness, 2009-2011" [ASN057] <i>Orienka Hellferscee (National Institute for Communicable Diseases) (South Africa)</i></li> <li>"A novel nontoxic antiviral compound for late treatment of RSV and other respiratory infections" [ASN182] <i>Andrej Egorov (HSC Development) (Russia)</i></li> </ul>
3:30 PM	Teabreak	
3:45 PM	<b>Venus</b>	
	<b>Plenary V</b>	
	"The science and practice of public health preparedness against directly transmissible respiratory pathogens" <i>Prof Gabriel Leung (University of Hong Kong) (Hong Kong)</i>	
4:15 PM	<b>ISIRV Annual General Meeting</b>	
5:00 PM	<b>Jupiter Room</b>	<b>Mercury Room</b>
	<b>Poster Session II with Authors (Networking Drinks)</b>	<b>Bioinformatics Workshop</b>
		<ul style="list-style-type: none"> <li>Live Demo on Virus Pathogen Resource and Influenza Research Database <i>(J. Craig Venter Institute) (US)</i></li> <li>Live Demo on FluSurver in Global Initiative for Sharing All Influenza Data (GISAID) <i>(A*STAR Bioinformatics Institute) (Singapore)</i></li> </ul>
7:00 PM	End of Day 2	

**Day 3 (Friday, 4 September 15)**

08:30 AM	<b>Venus</b>	
	<b>Plenary VI</b>	
	"The World's Response to Ebola" <i>Dame Barbara Stocking (Murray Edwards College, Cambridge) (UK)</i>	
09:00 AM	<b>Plenary VII</b>	
	"Disease modelling to inform outbreak control" <i>Prof Neil Ferguson (Imperial College London) (UK)</i>	
09:30 AM	Teabreak	
10:00 AM	<b>Venus I/II</b>	<b>Venus III</b>
	<b>Special Track</b>	<b>Parallel Session 9</b>
	"Updates on Respiratory Diseases for Policy Makers – Part 1"	"Modelling the Spread of Respiratory Pathogens"
	Chairperson: <i>Prof Paul A. Tambyah (National University of Singapore) (Singapore)</i>	Chairperson: <i>A/Prof Simon Cauchemez (Institut Pasteur) (France)</i>
	<ul style="list-style-type: none"> <li>"International collaborative networks for the study of emerging respiratory infections" <i>Prof Peter Horby (University of Oxford) (UK)</i></li> <li>"Vaccine Preventable Respiratory Diseases" <i>Prof Leo Yee Sin (Tan Tock Seng Hospital) (Singapore)</i></li> <li>"Respiratory diseases surveillance and preparedness in Indonesia" <i>Prof Tjandra Yoga Aditama (Indonesian Ministry of Health) (Indonesia)</i></li> <li>"Tackling TB, Influenza and MERS in Singapore" <i>A/Prof Jeffrey Cutter (Singapore Ministry of Health) (Singapore)</i></li> <li>"Impact and cost-effectiveness of interventions" <i>A/Prof Vernon Lee (National University of Singapore) (Singapore)</i></li> </ul>	<ul style="list-style-type: none"> <li>"Use of a Multi-Strain SIR Model May Allow Advance Forecasting of Seasonal Influenza Epidemics" [ASN014] <i>Mike Jackson (Group Health Cooperative) (US)</i></li> <li>"Using Simple Mathematical Models to Understand the Within-Host Dynamics of Influenza A Virus Infection: From Theory to Clinical Implications" [ASN106] <i>Christoforos Hadjichrysanthou (Imperial College London) (UK)</i></li> <li>"Global Contact Matrices For The Socio-Demographic Spread Of Infectious Diseases" [ASN154] <i>Kiesha Prem (Saw Swee Hock School of Public Health) (Singapore)</i></li> <li>"Assessing School Closure in Urban Singapore Using the GeoDEMOS Individual Based Modelling Platform" [ASN146] <i>Joel Koo (Saw Swee Hock School of Public Health) (Singapore)</i></li> <li>"Individual and population trajectories of influenza antibody titers over multiple seasons in tropical Singapore" [ASN151] <i>Alex Cook (National University of Singapore) (Singapore)</i></li> </ul>
12:00 NN	<b>Mercury Room</b>	
	<b>Lunch Session on Vaccines Against Influenza</b>	
	Chairperson: <i>A/Prof Gavin Smith (Duke-NUS Medical School) (Singapore)</i>	
	<ul style="list-style-type: none"> <li>"Seasonality of Influenza in Tropical and Subtropical Asia: Implications for Vaccination Timing" <i>Dr Siddhartha Saha (US Centers for Disease Control and Prevention, India Office) (India)</i></li> <li>"Influenza B Virus Epidemiology and Burden in Asia Pacific: The Role of Quadrivalent Vaccines" <i>Prof Ben Cowling (University of Hong Kong) (Hong Kong)</i></li> <li>"Seasonal influenza vaccine policy and implementation in Asia Pacific Countries: challenges and way forward" <i>Prof John Tam (Hong Kong Polytechnic University) (Hong Kong)</i></li> </ul>	

1:45 PM	<b>Venus I/II</b>	<b>Venus III</b>
	<b>Special Track</b>	<b>Parallel Session 10</b>
	"Updates on Respiratory Diseases for Policy Makers – Part 2"	"Respiratory Pathogen Co-infections (Viral-bacterial and Viral-viral Interactions)"
	Chairperson: <i>Prof Peter Horby (University of Oxford) (UK)</i>	Co-Chairpersons: <i>Dr Jon McCullers &amp; Prof Dennis Metzger</i>
	<ul style="list-style-type: none"> <li>"Enterovirus D68 in 2014 – what happened in Europe" [Invited Speaker] <i>Dr Pasi Penttinen (European Centre for Disease Prevention and Control) (Sweden)</i></li> <li>"Antimicrobial Resistance: Impact on Respiratory Tract Infections" <i>Dr Hsu Li Yang (Mount Elizabeth Novena Hospital) (Singapore)</i></li> <li>"One Health Preparedness and Interventions for Pandemic Influenza" <i>Dr Ruben Donis (US Centers for Disease Control and Prevention) (US)</i></li> <li>"Bat-borne Zoonotic Respiratory Pathogens: How Much Do We Know?" <i>Prof Wang Linfa (Duke-NUS Medical School) (Singapore)</i></li> <li>"Public Health Emergencies: Security &amp; Ethics" <i>Dr Voo Teck Chuan (National University of Singapore) (Singapore)</i></li> </ul>	<ul style="list-style-type: none"> <li>"Glycosylation of the influenza virus HA mediates severity of secondary bacterial pneumonia" [Invited Speaker] <i>Dr Jon McCullers (University of Tennessee Health Science Center &amp; Le Bonheur Children's Hospital) (US)</i></li> <li>"Synergy Between Influenza Virus and Pneumococcus" [Invited Speaker] <i>Prof Dennis Metzger (Albany Medical College) (US)</i></li> <li>"The Impact Of HIV On The Burden And Severity Of Influenza Illness In Malawian Adults: The BASH-FLU Study" [ASN133] <i>Antonia Ho (Malawi-Liverpool-Wellcome Trust Clinical Research Programme) (Malawi)</i></li> <li>"Household Transmission Of Influenza Virus From HIV-infected And HIV-uninfected Index Cases, South Africa, 2013-2014" [ASN166] <i>Akhona Tshangela (National Institute for Communicable Diseases) (South Africa)</i></li> <li>"Irregular Seasonality of Influenza-like Illness in a Tropical Urban Setting" [ASN212] <i>Maciej Boni (Oxford University Clinical Research Unit) (Viet Nam)</i></li> </ul>
3:45 PM	Teabreak	
4:00 PM	<b>Venus</b>	
	<b>Plenary VIII</b>	
	"How do we detect and respond to the next emerging respiratory infection?" <i>Prof David Heymann (Public Health England) (UK)</i>	
4:30 PM	Awards Presentation & Closing Remarks	
4:45 PM	End of Day 3	