

INFLUENZA VACCINES FOR THE WORLD

19-21 April 2017, CHUV/University of Lausanne, Lausanne, Switzerland

FINAL ORAL PROGRAMME IVW 2017

SCIENTIFIC ADVISORY PANEL

Othmar Engelhardt (*NIBSC/HPA, Potters Bar, UK*)

Rosalind Hollingsworth (*Sanofi Pasteur, Swiftwater, Pennsylvania, USA*)

John Oxford (*Queen Mary College London / hVIVO Ltd / Oxford Media & Medicine, London, UK*)

Albert Osterhaus (*University of Veterinary Medicine Hannover, Hannover, Germany*)

Ted Ross (*University of Georgia, Athens, Georgia, USA*)

Yoshihiro Kawaoka (*University of Wisconsin, Madison, Wisconsin, USA*)

Helen Bright (*MedImmune, Liverpool, UK*)

Jonathan Van Tam (*University of Nottingham, UK*)

Rob Lambkin-Williams (*hVIVO Ltd., London, UK*)

Dirk Poelaert (*GSK Vaccines, Wavre, Belgium*)

Ronald Kompier (*FluConsult, Noordwijk, The Netherlands*)

Erin Grace Sparrow (*WHO, Geneva, Switzerland*)

Manon Cox (*Protein Sciences Corporation, Meriden, Connecticut, USA*)

Emanuele Montomoli (*VisMederi Srl, Siena, Italy*)

Yotam Levin (*NanoPass Technologies Ltd, Rehovot, Israel*)

Manmohan Singh (*Takeda Vaccines, Morrisville, North Carolina, USA*)

Anna-Karin Maltais (*Eurocine Vaccines AB, Solna, Sweden*)

Edward Remarque (*BPRC, Rijswijk, The Netherlands*)

Myra Widjojoatmodjo (*Janssen Vaccines, Leiden, The Netherlands*)

Sean Tucker (*VAXART Inc, South San Francisco, California, USA*)

Nathalie Charland (*Medicago, Quebec, Canada*)

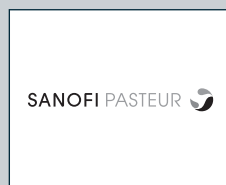
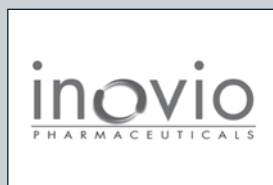
Kathy L. Rowlen (*InDevR Inc, Boulder, Colorado, USA*)

Shan Lu (*University of Massachusetts Medical School, Worcester, Massachusetts, USA*)

Carrie Pierce (*Centers for Disease Control and Prevention (NCEH/CDC), Atlanta, Georgia, USA*)

Jon Bundy (*Centers for Disease Control and Prevention (NCEH/CDC), Atlanta, Georgia, USA*)

Tamar Ben-Yedidia (*BiondVax Pharmaceuticals Ltd, Ness Ziona, Israel*)



07.50-08.50

Arrival & Registration & Poster Set-Up

08.50-09.00

Welcome to Lausanne and Opening Remarks

John Oxford (*Queen Mary College, University of London, London, UK*)

SESSION 1: OPENING PLENARY SESSION

Moderator: John Oxford (*Queen Mary College, University of London, London, UK*)

09.00-09.30

'The Global Action Plan (GAP) for influenza vaccines 10 years on'

Gary Grohmann, Erin Sparrow, Martin Friede and Claudia Nannei (*WHO, Geneva, Switzerland*)

09.30-10.00

'Treating the host response to emerging virus diseases: Lessons learned from influenza and ebola, and implications for global health and security'

David Fedson (*Independent Consultant, Sergy Haut, France*)

10.00-10.30

'The challenge of vaccinating healthcare workers against influenza'

Jonathan Van Tam (*University of Nottingham, Nottingham, UK*)

10.30-11.00

Coffee Break & Posters Set-Up

SESSION 2: PLENARY II

Moderator: Helen Bright (*MedImmune Ltd, Liverpool, Merseyside, UK*)

11.00-11.30

'Infection in quarantined volunteers for basic studies of viruses, vaccines and antibody therapies'

John Oxford (*Queen Mary College, University of London, London, UK*)

11.30-12.00

'The past and future of LAIV'

Timo Vesikari (*University of Tampere, Tampere, Finland*)

12.00-12.30

'Beyond hemagglutinin for flu vaccines: A new analytical platform for tracking HA, NA, M1 and NP'

Kathy Rowlen (*InDevR Inc., Boulder, Colorado, USA*)

12.30-13.30

Lunch Break & Posters

SESSION 3: INFLUENZA VIRUSES

Moderator: Ted Ross (*University of Georgia, Athens, Georgia, USA*)

13.30-14.00

'Improvement of influenza candidate vaccine viruses'

Othmar G. Engelhardt (*NIBSC, South Mimms, Potters Bar, Hertfordshire, UK*)

14.00-14.20

'Human virus challenge models, from one century to the next: What have we learned?'

Rob Lambkin-Williams (*hVIVO Ltd, London, UK*)

14.20-14.40

'Ferret models to study vaccine strategies against influenza'

Koert Stittelaar¹, Leon de Waal¹, Geert van Amerongen¹, Marie Pohl¹, Edwin Veldhuis Kroeze¹ and Albert Osterhaus^{1,2,3}

(¹ *Viroclinics Biosciences B.V., Rotterdam, The Netherlands*; ² *Artemis One Health, Utrecht, The Netherlands*; ³ *University of Veterinary Medicine, Hannover, Germany*)

14.40-15.00

'COBRA HA induced hemagglutination-inhibition antibodies against a panel of H3N2 influenza antigenic variants'

James D. Allen¹, Terianne M. Wong¹, Anne-Gaelle Bebin-Blackwell¹, Donald M. Carter¹, Timothy Alefantis², Joshua DiNapoli², Harold Kleantous² and Ted M. Ross¹

(¹ *University of Georgia, Athens, Georgia, USA*; ² *Sanofi-Pasteur, Inc., Discovery Research, Cambridge, Massachusetts, USA*)

15.00-15.20

'Emergence and spread of antigenic variants for H3N2 influenza A viruses: Uncertainty and rapidity'

Xiu-Feng Wan, Lei Han, Lei Li and Tong Zhang

(*College of Veterinary Medicine, Mississippi State University, Mississippi, USA*)

15.20-15.40

'A novel amphibian innate immune mediator is virucidal for human influenza viruses'

Josh Jacob (*Emory University, Atlanta, Georgia, USA*)

15.40-16.00

Tea Break & Posters

SESSION 4: INFLUENZA VACCINES

Moderator: Jonathan Van Tam (*University of Nottingham, Nottingham, UK*)

16.00-16.20

'The rationale for quadrivalent influenza vaccines'

Dirk Poelert (*GlaxoSmithKline, Wavre, Belgium*)

16.20-16.40

'A role for DNA immunization in preventing influenza infection'

Grant Weaver, Shixia Wang, and Shan Lu

(*University of Massachusetts Medical School, Worcester, Massachusetts, USA*)

16.40-17.00

'Pan-influenza A protection from group 1 and 2 viruses provided by X-31 cold-adapted live attenuated influenza vaccine'

Yo Han Jang¹, Joo Young Kim², Young Ho Byun¹, Ahyun Son¹, Yoon Jae Lee¹, Jun Chang² and Baik Lin Seong^{1,3}

(¹ *Department of Biotechnology, College of Life Science and Biotechnology, Yonsei University, Seoul, South Korea*; ² *Graduate School of Pharmaceutical Sciences, Ewha Womans University, Seoul, South Korea*; ³ *Vaccine Translational Research Center, Yonsei University, Seoul, South Korea*)

17.00-17.20

'A novel influenza vaccine targeting an epitope of limited variability'

Craig P. Thompson^{1,2}, José Lourenço¹, Mathew Edmans^{1,2}, Kreepa Kooblal³, Duncan Palmer¹, George Carnell⁴, Daniel O'Connor⁵, Thomas Bowden⁶, Andrew Pollard⁵, Nigel J. Temperton⁴, Teresa Lambe², Sarah Gilbert² and Sunetra Gupta¹

(¹ *Department of Zoology, University of Oxford, UK*; ² *The Jenner Institute Laboratories, University of Oxford, UK*; ³ *Oxford Centre for Diabetes, Endocrinology and Metabolism, University of Oxford, UK*; ⁴ *Viral Pseudotype Unit, Medway School of Pharmacy, The Universities of Greenwich and Kent at Medway, UK*; ⁵ *Oxford Vaccine Group, Department of Paediatrics, University of Oxford, UK*; ⁶ *Division of Structural Biology, University of Oxford, UK*)

17.20-17.40

'A "magic" sequence to increase immunogenicity of recombinant prokaryotic and eukaryotic antigens'

I. Legastelois¹, I. Peubez¹, S. Margot¹, S. Buffin¹, H. Boukhebz¹, A. Pilloud¹, C. Pion¹, V. Courtois¹, L. Potdevin¹, S. Commandeur¹, V. Marin¹, M.C. Bernard¹, P. Dinadayala¹, D. Poncet¹, R. Sodoyer^{1,2} and J. Haensler¹

(¹ *Research and Development, Sanofi Pasteur, Marcy L'toile, France*; ² *OTECI, Lyon, France*)

17.40-18.00

'Regulatory T cell epitope deletion enhances H7N9 influenza vaccine immunogenicity'

Oreda Boussadia¹, Annie De Groot^{1,2}, Lenny Moise^{1,2}, Rui Liu², Bradford C. Lefoley³, Rayleigh Chan^{3,4}, Manabu Ato⁵, Yoshimasa Takahashi⁵, Arnone Nithichanon^{5,6}, Ted M. Ross³ and William Martin¹

(¹ *EpiVax, Inc., Providence, Rhode Island, USA*; ² *Institute for Immunology and Informatics, University of Rhode Island, Providence, Rhode Island, USA*; ³ *Center for Vaccines and Immunology, University of Georgia, Athens, Georgia, USA*; ⁴ *University of British Columbia, Vancouver, British Columbia, Canada*; ⁵ *National Institute of Infectious Diseases, Tokyo, Japan*; ⁶ *Khon Kaen University, Khon Kaen, Thailand*)

18.00-19.00

IWV 2017 Welcome Drinks Reception & Posters

SESSION 5: SPECIAL SESSION**'Innate and acquired immunity to plant-made influenza VLP vaccines in adults and elderly'**Moderator: Nathalie Charland (*Medicago Inc., Quebec, Quebec, Canada*)

09.00-09.30

'Mechanism of plant-made VLP Vaccines I: Focus on the innate response'Brian J. Ward (*McGill University, Montreal, Quebec, Canada*)

09.30-10.00

'Mechanism of plant-made VLP vaccines II: Dendritic cells and adaptive responses'Connie Michele Krawczyk (*McGill University, Montreal, Quebec, Canada*)

10.00-10.30

'Clinical update of plant-made quadrivalent VLP vaccine'Nathalie Landry (*Medicago Inc., Quebec, Quebec, Canada*)

Sponsored by MEDICAGO

medicago

10.30-11.00

Coffee Break & Posters

SESSION 6: DELIVERY ROUTESModerator: Manmohan Singh (*Takeda Vaccines, Inc., Cambridge, Massachusetts, USA*)

11.00-11.20

'Clinical development of an inactivated nasal influenza vaccine'Anna-Karin Maltais (*Eurocine Vaccines AB, Solna, Sweden*)

11.20-11.40

'Live attenuated versus inactivated influenza vaccines: Controlling for administration route and other factors'

Yuri M. Vasiliev

(*St. Petersburg Research Institute of Vaccines and Sera, St Petersburg, Russian Federation*)

11.40-12.00

'Jet delivery of DNA: targeting of hemagglutinin to MHC class II molecules protects rhesus macaques against H1N1 influenza'Petra Mooij¹, Gunnveig Grødeland², Gerrit Koopman¹, Daniëlla Mortier¹, Ivonne G. Nieuwenhuis¹, Ernst Verschoor¹, Zahra Fagrouch¹, Willy M. Bogers¹ and Bjarne Bogen^{2,3}
(¹ *Biomedical Primate Research Centre, Rijswijk, The Netherlands*; ² *K.G. Jebsen Centre for Influenza Vaccine Research, Institute of Clinical Medicine, University of Oslo and Oslo University Hospital, Oslo, Norway*; ³ *Centre for Immune Regulation (CIR), Institute of Immunology, University of Oslo and Oslo University Hospital, Norway*)

12.00-12.20

'The cross-protective potential and the protection-relevant immune mechanisms of whole inactivated virus vaccines are determined by adjuvants and route of immunization'Yoshita Bhide¹, Wei Dong¹, Inta Gribonika³, Daniëlle Voshart¹, Tjarko Meijerhof¹, Jacqueline de Vries-Idema¹, Dennis Christensen², Nils Lycke³, Stephen Norley⁴, Diane Major⁵, Sarah Skeldon⁵, Othmar Engelhardt⁵ and Anke Huckriede¹
(¹ *University Medical Center Groningen, University of Groningen, Groningen, The Netherlands*; ² *Statens Serum Institut, Copenhagen, Denmark*; ³ *Gothenburg University, Gothenburg, Sweden*; ⁴ *Robert Koch Institute, Berlin, Germany*; ⁵ *National Institute for Biological Standards and Control (NIBSC), MHRA, Potters Bar, UK*)

12.20-12.40

'Challenges in influenza virus-like particles production: New analytical tools and downstream process optimization'S.B. Carvalho^{1,2}, J.M. Freire³, R. Silva¹, M.G. Moleirinho¹, B. Cunha^{1,2}, A.S. Moreira¹, F. Monteiro^{1,2}, D. Gaspar³, M.A.R.B. Castanho³, G.J.L. Bernardes^{3,4}, D. Wheatley⁵, J. Welsh⁵, R. Gantier⁶, A. Xenopoulos⁷, P. M. Alves^{1,2}, C. Peixoto^{1,2} and M.J.T. Carrondo^{1,2,8}
(¹ *iBET, Oeiras, Portugal*; ² *ITQB-NOVA, Oeiras, Portugal*; ³ *Instituto de Medicina Molecular, Lisboa, Portugal*; ⁴ *University of Cambridge, Cambridge, UK*; ⁵ *Pall Life Sciences, UK*; ⁶ *Pall Life Sciences, USA*; ⁷ *EMD Millipore, USA*; ⁸ *FCT/UNL, Caparica, Portugal*)

12.40-13.40

Lunch Break & Posters

SESSION 7: UNIVERSAL INFLUENZA VACCINES – IModerator: Sean Tucker (*VAXART Inc., South San Francisco, California, USA*)

13.40-14.10

'Progress in clinical development of novel influenza vaccines'Sarah Gilbert (*University of Oxford, Oxford, UK*)

14.10-14.40

'Adjuvanted mini-HA UFV4900 provides protection in a ferret pre-exposure H5N1 challenge model'Joan E.M. van der Lubbe¹, Geert van Amerongen², Leon de Waal², Liesbeth Dekking¹, Wim Meijberg¹, Boerries Brandenburg¹, Ted Kwaks¹, Hanneke Schuitemaker¹, Roland Zahn¹, Koert Stittelaar², Ramon Roozendaal¹ and Harmjan Kuipers¹
(¹ *Janssen Vaccines and Prevention BV, Pharmaceutical Companies of Johnson & Johnson, Leiden, The Netherlands*; ² *Viroclinics Biosciences BV, Rotterdam, The Netherlands*)

14.40-15.10

'Safety and immunogenicity of a BiondVax-developed universal influenza vaccine (Multimeric-001) followed by an administration of a H5N1 influenza vaccine'Joshua E. Phillipson¹, Tamar Ben-Yedidia¹, Eva van Doorn², Atiqul Islam², Shimon Hassin², Ildiko Visontai³, Stephan Norley⁴, Anke Huckriede⁵, Henderik W. Frijlink⁶ and Eelko Hak²
(¹ *BiondVax Pharmaceuticals Ltd., Ness Ziona, Israel*; ² *University of Groningen, Groningen, The Netherlands*; ³ *National Center for Epidemiology, Budapest, Hungary*; ⁴ *Robert Koch Institute, Berlin, Germany*; ⁵ *University of Groningen, University Medical Center Groningen, Groningen, The Netherlands*; ⁶ *Groningen Research Institute of Pharmacy, University of Groningen, Groningen, The Netherlands*)

15.10-15.30

Tea Break & Posters

SESSION 8: IVW 2017 WORKSHOP**'Alternative potency assay development for influenza vaccines'**

Moderators:

Jonathan L. Bundy and Carrie L. Pierce (*National Center for Environmental Health, Centers for Disease Control and Prevention (NCEH/CDC), Atlanta, Georgia, USA*)
Othmar G. Engelhardt (*National Institute for Biological Standards and Control (NIBSC), South Mimms, Potters Bar, Hertfordshire, UK*)

15.30-15.40

Opening RemarksOthmar Engelhardt (*National Institute for Biological Standards and Control (NIBSC), South Mimms, Potters Bar, Hertfordshire, UK*)

15.40-15.55

'Historical and current background on potency assays for influenza vaccines'Jerry Weir (*Center for Biologics Evaluation and Research, Food and Drug Administration (CBER/FDA) Bethesda, Maryland USA*)

15.55-16.10

'The basis for measurement in influenza potency assays and the analytical challenges involved in implementing alternative assays'Ethan Settembre (*Seqirus, Cambridge, MA USA*)

16.10-16.25

'Relevance of current and future potency assays to clinical/in vivo studies'Kathy Rowlen (*InDevR, Boulder, Colorado USA*)

16.25-16.40

'Use of mass spectrometry in the influenza vaccine development pipeline'Carrie Pierce (*National Center for Environmental Health, Centers for Disease Control and Prevention (NCEH/CDC), Atlanta, Georgia, USA*)

16.40-16.55

'Forced degradation studies to support potency assay development'Othmar Engelhardt (*National Institute for Biological Standards and Control (NIBSC), South Mimms, Potters Bar, Hertfordshire, UK*)

16.55-17.10

'Status of current approaches for novel alternative potency assays'Jonathan Bundy (*National Center for Environmental Health, Centers for Disease Control and Prevention (NCEH/CDC), Atlanta, Georgia, USA*)

17.10-17.25

'IFPMA/BARDA Phase I & II potency assay evaluation studies'Shawn Gilchrist (*IFPMA representative*)

17.25-17.40

'Assays for influenza vaccine immunogenicity evaluation and correlates of protection'Emanuele Montomoli (*VisMederi Srl, Siena, Italy/University of Siena, Siena, Italy*)

17.40-18.00

General Discussion

All, led by Moderators

SESSION 9: UNIVERSAL INFLUENZA VACCINES – II

Moderator: Sarah Gilbert (*University of Oxford, Oxford, UK*)

09.00-09.30

'What is needed for the ultimate influenza vaccine?'

Rob Lambkin-Williams (*hVIVO Ltd, London, UK*)

09.30-09.50

'Recombinant adenovirus expressing influenza HA can effectively prime for heterologous neutralizing antibody responses'

Sean Tucker (*VAXART Inc., South San Francisco, California, USA*)

09.50-10.10

'Results of a Phase 1a study of M2SR influenza vaccine in healthy adults'

Pamuk Bilsel (*FluGen Inc., Madison, Wisconsin, USA*)

10.10-10.30

'Novel MVA-based vaccines expressing conserved influenza antigens activate cross-reactive T and B cell responses in human NALT against influenza virus'

Qibo Zhang¹, Suttida Puksurivong¹, Muhammad S. Ahmed¹, Ravi Sharma², Madhan Krishnan², Anna Markey², Max McCormick³, Teresa Lambe⁵, Paul McNamara⁴ and Sarah C. Gilbert⁵ (¹ *Institute of Infection and Global Health, University of Liverpool, Liverpool, UK*; ² *ENT Department, Alder Hey Children's Hospital, Liverpool, UK*; ³ *ENT Department, Royal Liverpool and Broadgreen University Hospitals, Liverpool, UK*; ⁴ *Institute of Child Health, Alder Hey Children's Hospital, Liverpool, UK*; ⁵ *The Jenner Institute, University of Oxford, Oxford, UK*)

10.30-10.50

'Large variation in effects of influenza vaccines pre- and post-2009 influenza H1N1 pandemic among community-dwelling older persons'

E. Hak (*University Groningen, Groningen, The Netherlands*)

10.50-11.10

Coffee Break & Posters

SESSION 10: FORMULATION, VACCINATION & REACTOGENICITY

Moderator: Rob Lambkin-Williams (*hVIVO Ltd, London, UK*)

11.10-11.30

'Rational vaccine formulation development using QbD Principles'

Manmohan Singh (*Takeda Vaccines, Inc., Cambridge, Massachusetts, USA*)

11.30-11.50

'Vaccinating in the presence of pre-existing immune responses'

Donald M. Carter¹, Christopher A. Darby¹, Timothy Alefantis², Joshua DiNapoli², Harold Kleanthous² and Ted M. Ross¹ (¹ *University of Georgia, Athens, Georgia, USA*; ² *Sanofi-Pasteur, Inc., Discovery Research, Cambridge, Massachusetts, USA*)

11.50-12.10

'Vaccination with self-adjuvanted protein nanoparticles provides protection against lethal influenza challenge'

Christopher Karch¹, Jianping Li², Caroline Kulangara³, Sara M. Paulillo³, Senthil K. Raman³, Sharareh Emadi⁴, Anmin Tan⁴, Zeinab H. Helal^{2,5}, Qing Fan^{2,6}, Mazhar I. Khan² and Peter Burkhard³ (¹ *University of Connecticut, Storrs, Connecticut, USA*; ² *Department of Pathobiology and Veterinary Science, University of Connecticut, Storrs, Connecticut, USA*; ³ *Alpha-O Peptides AG, Riehen, Switzerland*; ⁴ *Institute of Materials Science, University of Connecticut, Storrs, Connecticut, USA*; ⁵ *Department of Microbiology and Immunology, Faculty of Pharmacy, Alazhar-University, Cairo, Egypt*; ⁶ *Department of Biotechnology, Guangxi Veterinary Research Institute, Nanning, Guangxi, China*)

12.10-12.30

'Rapid assessment of the reactogenicity of a 2016-2017 seasonal influenza vaccine: Results from a feasibility study'

Anke L. Stuurman¹, Thomas Verstraeten¹ and Antoon De Schryver² (¹ *P95 Epidemiology and Pharmacovigilance Consulting and Services, Leuven, Belgium*; ² *IDWE, Leuven, Belgium*)

12.30-12.50

'Infection-permissive immunity against influenza virus provided by vaccination

prevents loss of alveolar macrophages and modulates virus-induced cross-reactive cellular immune responses during subsequent influenza infections'
Angela Choi¹, Joselin Andrea Morales Mina¹, Jan Spitaels^{2,3}, Adolfo Garcia-Sastre^{1,3} and Michael Schotsaert¹

(¹ *Icahn School of Medicine at Mount Sinai, New York, New York, USA*; ² *Ghent University Department of Biomedical Molecular Biology, Ghent, Belgium*; ³ *Global Health and Emerging Pathogens Institute, Department of Medicine, Icahn School of Medicine at Mount Sinai New York, New York, USA*)

12.50-13.10

'Impact of prior influenza exposures on H3N2 cross-reactivity of human post-vaccination sera'

Hang Xie¹, Lei Li², Zhiping Ye¹, Xing Li¹, Ewan P. Plant¹, Olga Zoueva¹, Yangqing Zhao¹, Xianghong Jing¹, Zhengshi Lin¹, Toshiaki Kawano¹, Meng-Jung Chiang¹, Courtney Finch¹, Martina Kosikova¹, Anding Zhang¹, Yanhong Zhu¹ and Xiu-Feng Wan²

(¹ *Center for Biologics Evaluation and Research, United States Food and Drug Administration (CBER/FDA), Silver Spring, Maryland, USA*; ² *Mississippi State University, Mississippi, USA*)

13.10-14.00

Lunch Break & Posters

SESSION 11: EVALUATION, EFFICACY & SAFETY

Moderator: Dirk Poelert (*GlaxoSmithKline, Wavre, Belgium*)

14.00-14.20

'Non-clinical investigations into the reduced effectiveness of the H1N1pdm09 component of the live attenuated influenza vaccine'

Helen Bright (*MedImmune Ltd, Liverpool, Merseyside, UK*)

14.20-14.40

'Observational study comparing safety of Flublok with a traditional egg-derived inactivated influenza vaccine'

Manon Cox (*Protein Sciences Corporation, Meriden, Connecticut, USA*)

14.40-14.55

'Improving the safety of a whole influenza virus vaccine through delipidation'

Motuharu Abe, Kazuyuki Ikeda, Ryo Yamaue, Issei Asano, Hiroto Onuma, Yusuke Ohyama, Kenta Matsuura, Hiroaki Mori, Kazuhiko Kimachi and Yoichiro Kino (*Kaketsuken, Kumamoto, Japan*)

14.55-15.10

'Influenza vaccine effectiveness and safety in Italy season 2015/16'

Valeria Alfonsi¹, Antonino Bella¹, Patrizia Felicetti², Stefania Spila Alegiani¹ and Caterina Rizzo¹ (¹ *Istituto Superiore di Sanità, Rome, Italy*; ² *Italia Medicines Agency AIFA, Rome, Italy*)

15.10-15.25

Tea Break & Poster Breakdown

SESSION 12: CLOSING PLENARY

Moderator: John Oxford (*Queen Mary College, University of London, London, UK*)

CLOSING PLENARY PRESENTATIONS

15.25-16.05

'Influenza prevention: Vaccination uptake stagnation – a global public health failure?'

Bram Palache (*Independent Consultant, IFPMA, International Federation of Pharmaceutical Manufacturers & Associations, Geneva, Switzerland*)

16.05-16.25

'Statins, influenza vaccination and influenza'

David Fedson (*Independent Consultant, Sergy Haut, France*)

16.25-16.45

'Influenza Vaccines – The Continuing Challenge'

Ab Osterhaus (*University of Veterinary Medicine Hannover, Hannover, Germany*)

16.45

Conference Close & Departure

* This final 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

'Core-shell implants suitable to obtain a delayed IgG1 antibody response in mice'

Philip A. Born¹, Katie Amsoms², Ben De Clerck², Ellen Van Gulck³, Henderik W. Frijlink¹, Niels Grasmeyer¹, Guenter Kraus³, Roger Suttmüller³, Kenny Simmen⁴, Lieven Baert⁵ and Wouter L.J. Hinrichs¹

(¹ Department of Pharmaceutical Technology and Biopharmacy, University of Groningen; ² Discovery Sciences, Janssen Research & Development, a division of Janssen Pharmaceutica NV; ³ Infectious Diseases & Vaccines Therapeutic Area, Janssen Research & Development, a division of Janssen Pharmaceutica NV; ⁴ Johnson & Johnson Innovation Center; ⁵ Jalima Pharma bvba)

Poster 102

'Induction of hetero-subtypic immunogenicity by influenza DNA vaccine based on hemagglutinin using a conventional adjuvant alum phosphate'

Hwajung Yi, Ki-Woen Seo, Eun Young Jang, Mi-Seon Lee, Junhyung Cho, Joo-Yeon Lee and Kisoon Kim

(Division of Influenza Virus, Korea National Institute of Health, Korea Centers for Diseases Control and Prevention, OHTAC, 187, Cheongju-si, Chungbuk-do, 28159, Republic of Korea)

Poster 103

'Roles of non-neutralizing antibodies against hemagglutinin of the highly pathogenic avian H5N1 influenza virus in human'

Mi-Seon Lee, Eun Young Jang, Junhyung Cho, Joo-Yeon Lee, Kisoon Kim and Hwajung Yi

(Division of Influenza Virus, Korea National Institute of Health, Korea Centers for Diseases Control and Prevention, OHTAC, 187, Cheongju-si, Chungbuk-do, 28159, Republic of Korea)

Poster 104

'Plant-made virus-like particles bearing influenza hemagglutinin mimic the interactions of influenza virus with human antigen-presenting cells *in vitro*'

Alexander I. Makarkov¹, Sabrina Chierzi¹, Stéphane Pillet^{1,2}, Nathalie Charland², Nathalie Landry² and Brian J. Ward¹

(¹ Research Institute of McGill University Health Centre and Division of Experimental Medicine, Department of Medicine, McGill University, Montréal, Quebec, Canada; ² Medicago Inc, Ste-Foy, Quebec, Canada)

Poster 105

'Commitment to vaccination against flu at pregnant women and health workers'

N.I. Briko and T.S. Saltykova

(Sechenov First Moscow State Medical University, Moscow, Russia)

Poster 106

'Plant-made virus-like particle vaccines bearing the hemagglutinin of either seasonal (H1) or avian (H5) influenza have distinct patterns of interaction with human immune cells *in vitro*'

Hilary E. Hendin^{1,2}, Stéphane Pillet^{2,3}, Amanda N. Lara^{2,4}, Nathalie Charland³, Nathalie Landry³ and Brian J. Ward²

(¹ Department of Microbiology and Immunology, McGill University, Montreal, Quebec, Canada; ² Research Institute of McGill University Health Centre, Glen Site, Montreal, Quebec, Canada; ³ Medicago Inc., Quebec, Quebec, Canada; ⁴ University of Sao Paulo School of Medicine, Cerqueira César, São Paulo, Brazil)

Poster 107

'Layer-by-layer coating of whole inactivated influenza virus (WIV): A single-shot vaccine approach?'

C. Lemoine^{1,2}, M. Marti Favre¹, V. Jakob¹, W. Jiskoot³, N. Collin¹, G. Borchard² and C. Barnier-Quer¹

(¹ Vaccine Formulation Laboratory, University of Lausanne, Lausanne, Switzerland; ² School of Pharmaceutical Sciences, University of Geneva, University of Lausanne, Lausanne, Switzerland; ³ Division of Drug Delivery Technology, Leiden Academic Centre for Drug Research, Leiden, The Netherlands)

Poster 108

'Clinico-radiological profile, polymerase chain reaction (PCR) – positivity and outcome – analysis in hospitalized suspected H1N1 pneumonia: Efficiency assessment of health care delivery system. A pilot study'

Muhammad Yousaf Khan, Zafar Iqbal, Jawad Khan and Muhammad Amin

(Affiliation to be confirmed)

Poster 109

'The experience of school-based influenza vaccination in Taiwan'

Shu-Er Yang

(CDC, Taiwan)

Poster 110

'Single shot vaccines with novel CMS adjuvant'

Peter Paul Platenburg¹, Luuk Hilgers¹, Jeffrey Bajramovic², Jennifer Veth², Anneloes Dirks³, Tineke Coenen³, Robert Sauerwein⁴, Will Roeffen⁴, Marie Pohl⁵, Geert van Amerongen⁵, Koert J. Stittelaar⁵ and Han van den Bosch¹

(¹ LiteVax BV, Oss, The Netherlands; ² Biomedical Primate Research Centre, Rijswijk, The Netherlands; ³ BioXpert BV, Schaijk, The Netherlands; ⁴ Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands; ⁵ Viroclinics Biosciences BV, Rotterdam, The Netherlands)

Poster 111

'Development and validation of a non-egg-adapted wild-type Influenza A H3N2 strain (A/Belgium/4217/2015 (H3N2)) as challenge agent for human volunteer challenge studies'

M. Schutten¹, B. Speder², R. Jeeninga³, V. van Cleave⁴, A. Lovatt⁵, J. Sheridan² and A. Wildfire²

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'Adjuvanted mini-HA UFV4900 induces broadly influenza neutralizing antibodies in pre-exposed non-human primates which protect mice from lethal influenza challenge'

Joan E.M. van der Lubbe, Jeroen Huizingh, Johan Verspuij, Lisanne Tettero, Sonja Schmit-Tillemans, Liesbeth Dekking, Boerries Brandenburg, Ted Kwaks, Jeroen Tolboom, Tobias Kamphuis, Wim Meijberg, Hanneke Schuitemaker, Roland Zahn, Ramon Roozendaal and Harmjan Kuipers

(Janssen Vaccines and Prevention BV, Pharmaceutical Companies of Johnson & Johnson, Leiden, The Netherlands)

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'An mRNA-based technology for the next generation of prophylactic influenza vaccines'

E. Jasny, J. Lutz, S. Rauch, S. Lazzaro, P. Baumhof, H. Heidenreich, B. Petsch and M. Fotin-Mleczek

(CureVac AG, Tübingen, Germany)

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To be confirmed

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