

PROGRAMME



isirv

International Society for
Influenza and other
Respiratory Virus Diseases

Immunological Assays and Correlates of Protection for Next Generation Influenza Vaccines

31 March – 2 April 2019 Siena | Italy

Day 1 Sunday 31 March

12:30 Registration / Poster Mounting

14:30 **Welcome and Opening Remarks** (Co-Chairs) **Rebecca Cox** University of Bergen, Norway
Emanuele Montomoli University of Siena, Italy

Session A Keynote Presentations Chair: Jerry Weir FDA, USA

14:45 **Influenza Immunity and Knowledge Gaps**
Jackie Katz CDC, USA

15:25 **Overview of Next Generation 'Universal' Influenza Vaccines**
Florian Krammer Icahn School of Medicine at Mount Sinai, USA

15:55 **Immune Correlates of Protection in Humans**
Rebecca Cox University of Bergen, Norway

16:20 **BREAK**

Session B Human Challenge and Vaccine Studies

Chairs: Jackie Katz CDC, USA

Stacey Schultz-Cherry St Jude Children's Research Hospital, USA

- 16:50** **History of Human Challenge Systems**
Bruce Innis PATH, USA
- 17:20** **Evaluation of Correlates of Vaccine Protection in the Human Influenza Challenge Model**
Flora Castellino BARDA, USA
- 17:45** **The Human Influenza Challenge Model: Infection Rates, Virus Shedding, Symptoms and Pre-existing Humoral and Cellular Immunity**
Alex Mann hVIVO, UK
- 18:10** **Comparitive Immunogenicity of Enhanced Influenza Vaccines in Older Adults in Hong Kong: A Randomized Controlled Trial**
Benjamin Cowling The University of Hong Kong, Hong Kong

18:30 WELCOME RECEPTION

Day 2 Monday 1 April

Session C Cohorts and Systems to Define Immune Correlates of Protection in Humans

Chairs: Diane Post NIH, USA Maria Zambon Public Health England, UK

- 09:00** **Systems Immunology Approaches to Influenza**
Bali Pulendran Stanford University, USA
- 09:30** **Cohort studies**
Aubree Gordon University of Michigan, USA

09:55	<p>Longitudinal cohorts to inform on influenza immunity and correlates Nancy Leung University of Hong Kong</p>
10:20	<p>Risk Factors and Attack Rates of Seasonal Influenza Infection: Results of the SHIVERS Seroepidemiologic Cohort Study Sue Huang Institute of Environmental Science and Research, New Zealand</p>
10:40	<p>BREAK</p>
	<p>Session D Predicting Vaccine Performance Chairs: Rebecca Cox University of Bergen, Norway Katja Hoschler Public Health England, UK</p>
11:10	<p>Predicting Vaccine Performance and Correlates of Protection Arnold Monto University of Michigan, USA</p>
11:40	<p>Prime Boosting Studies Kanta Subbarao WHO Collaborating Centre for Reference and Research on Influenza, Australia</p>
12:10	<p>A Case Study of Licensing a New Influenza Vaccine Nathalie Landry MediCago, Canada</p>
12:30	<p>LUNCH</p>
	<p>Session E Demonstration of Protection in Animal Models Chairs: Sarah Cobey University of Chicago, USA Florian Krammer Icahn School of Medicine at Mount Sinai, USA</p>
14:00	<p>Animal Models for the Development of Next-Generation Influenza Vaccines Yoshihiro Kawaoka University of Wisconsin, USA</p>
14:25	<p>Demonstration of Protection in Ferrets Stacey Schultz-Cherry St Jude Children’s Research Hospital, USA</p>

<p>14:50</p>	<p>Transfer Models of Immune Effectors Pierre Bruhns Institut Pasteur, France</p>	
<p>15:15</p>	<p>Cross-reactive Central and Respiratory CD8 and CD4 T Cells are Boosted After Heterosubtypic Influenza Infection and Correlate with Protection in Ferrets Koen van de Ven National Institute of Health & the Environment, Bilthoven, Netherlands</p>	
<p>15:30 BREAK</p>		
	<p>Session F Serology</p>	<p>Chairs: Othmar Engelhardt NIBSC, UK Chris Roberts DMID/NIAID/NIH/DHHS, USA</p>
<p>16:00</p>	<p>Serological assays (HI Virus Neutralization & M2) Min Levine CDC, USA</p>	
<p>16:20</p>	<p>Stalk Based Antibodies Raffael Nachbagauer Icahn School of Medicine at Mount Sinai, USA</p>	
<p>16:35</p>	<p>NA Assays and Standardisation Ralf Wagner Paul-Ehrlich-Institut, Germany</p>	
<p>16:50</p>	<p>Local Antibody Assays/ Novel Sampling Methods Katja Hoshler Public Health England, UK</p>	
<p>17:05</p>	<p>Antibody Dependent Cell-mediated Cytotoxicity Assays Stephen Kent Doherty Institute, Australia</p>	
<p>17:20</p>	<p>Functional Serological Assays to Measure Antibody Responses Against Influenza HA Globular Head, HA Stalk and NA Nigel Temperton University of Kent, UK</p>	

17:30-19:30 POSTER SESSION

DAY 3 Tuesday 2 April

Session G Assays for B and T cells

Chairs: Anke Huckriede University Medical Center Groningen, NL
Emanuele Montomoli University of Siena, Italy

09:00

B Cell Immunity to Influenza & B Cellular Assays

Ali Ellebedy Washington University School of Medicine, St Louis, USA

09:35

T Cell Immunity to Influenza & T Cellular Assays

Marios Koutsakos University of Melbourne, Australia

10:10

Assay Standardisation / Harmonisation

Standardisation of HA and NA assays (including CONCISE/FLUCOP)

Othmar Engelhardt National Institute for Biological Standards and Control, UK

10:30

Standardisation of T Cellular Assays for Influenza

Frédéric Clement Ghent University, Belgium

10:45

Statistical Approaches

Lingyi Zheng Sanofi Pasteur, USA

11:00

BREAK

11:30

Session H Recap of Sessions B-E Group discussion – The Way Forward

Panel: Rebecca Cox Jackie Katz Diane Post Jerry Weir

The Way Forward - towards identifying correlates of protection and developing consensus on immune responses to target
Identify collaborative studies/strategies to identify correlates

12:30

LUNCH

Session I Oral Presentations

- 14:00 Immune response after pandemic and seasonal influenza vaccination in healthcare workers
Mai Chi Trieu University of Bergen, Norway
- 14:12 H1N1 Vaccine Effectiveness in Live Attenuated Influenza Vaccine is Driven by Viral Replicative Fitness in the Human Respiratory Tract: Selection of a new and Improved Vaccine Candidate
Oliver Dibben Astrazeneca/MedImmune, UK
- 14:24 S-Flu: A Potential Universal Influenza Vaccine
Tiong Kit Tan University of Oxford, UK
- 14:36 Assessment of the correlation between VaxArray alternative potency assays for hemagglutinin and neuraminidase and immunogenicity in mice
Rose Nash InDevR Inc. USA
- 14:48 The Many Confounding Variables with Hemagglutination Inhibition Assays
Ewan P.Plant FDA, USA
- 15:00 Determining the correlation between the anti-hemagglutinin stalk activity of serum samples in an ADCC Reporter Bioassay versus a flow cytometry-based CD107a degranulation assay
Veronika Chromikova Icahn School of Medicine, USA
- 15:12 Influenza virus infection as well as immunization induces high titer cross-reactive haemagglutinin-specific antibody-dependent phagocytosis (ADP) and monocyte infection-enhancing responses in macaques
Edmond Remarque BPRC, Netherlands
- 15:24 Generation of an international standard serum to measure influenza virus hemagglutinin stalk-reactive antibodies
Juan Manuel Carreno Quiroz Icahn School of Medicine
- 15:36 Contributions of hemagglutinin- and neuraminidase-specific antibodies for protection against influenza during a 2016 influenza A/H3N2 outbreak in the military
Carol Weiss FDA Center for Biologics Evaluation and Research, USA
- 15:48 Reduced antibody function correlates with influenza infection in a household model of transmission
Sophie Valkenburg The University of Hong Kong, Hong Kong

16:00	BREAK
	Session J Recap of Sessions F-H Group discussion – The Way Forward II Panel: Othmar Engelhardt Emanuele Montomoli Chris Roberts Jerry Weir
16:30	The Way Forward II - in developing and standardising assays needed for measuring the relevant immune responses of next generation vaccines. What are relevant immune responses? Best assays available Approaches to standardisation and harmonisation
17:30	Closing Remarks – End of Meeting