6-12-2016

Conference Program (Vaccine Technology VI)

Laura A. Palomares  
UNAM, Mexico

Tarit Mukhopadhyay  
University College London, UK

Manon Cox  
Protein Sciences Corporation, USA

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BIOASTER Technology Research Institute, France

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Program

Vaccine Technology VI

June 12-17, 2016

Grande Real Santa Eulalia Hotel
Albufeira, Portugal

Conference Co-Chairs

Laura A. Palomares  
(UNAM, Mexico)

Tarit Mukhopadhyay  
(University College London, UK)

Manon Cox  
(Protein Sciences Corporation, USA)

Nathalie Garçon  
(BIOASTER Technology Research Institute, France)

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Steve Rockman, CSL
Ingrid Scully, Pfizer
Rebecca Sheets, Grimalkin Partners
Sergio Valentinotti, Liomont
Vidadi Yusibov, Fraunhofer
Vaccine Technology © Conferences History
An ECI Conference Series

Vaccine Technology I (2006)
Barry C. Buckland, John G. Aunins, Emilio A. Emini, and Jerald C. Sadoff
Puerto Vallarta, Mexico

Vaccine Technology II (2008)
Barry C. Buckland, John G. Aunins, Paula Marques Alves, and Kathrin Jansen
Albufeira, Algarve, Portugal

Vaccine Technology III (2010)
Barry C. Buckland, John G. Aunins, Paula Marques Alves, and Kathrin Jansen
Nuevo Vallarta, Mexico

Vaccine Technology IV (2012)
Barry C. Buckland, John G. Aunins, Paula Marques Alves, and Kathrin Jansen
Albufeira, Algarve, Portugal

Vaccine Technology V (2014)
Laura Palomares, Manon Cox, John Aunins and Kathrin Jansen
Playa del Carmen, Mexico
Conference Sponsors

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Merck
Merial, Inc.
Nanoimaging Services, Inc.
Pall
Pfizer
Sanofi Pasteur
Vaccine Journal (Elsevier)
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<th>Sunday June 12</th>
<th>Monday June 13</th>
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<tr>
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<td>Session 6</td>
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<td>Johan van Hooft</td>
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<td>Issues and case</td>
<td>Ian Frazer</td>
<td>Keynote Lecture</td>
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Sunday, June 12, 2016

16:00 - 18:30  Conference check-in

18:30 - 19:30  **Opening Keynote**

Vaccines: Reaching for higher branches after the low hanging fruit has been picked
Michael Kurilla, National Institute of Allergy and Infectious Diseases (NIAID), USA

19:30 - 21:00  Dinner

**NOTES**

- Technical Sessions will be held in Sala Grande Real.
- Poster Sessions will be held in Grande Real Foyer.
- Most meals will be in the Restaurante do Real. Changes will be announced.
- The conference banquet on Thursday will be held in the Restaurante Santa Eulalia.
- Audiotaping, videotaping and photography of presentations are prohibited.
- Speakers – Please leave at least 5 minutes for questions and discussion.
- Please do not smoke at any conference functions.
- Turn your cellular telephones to vibrate or off during technical sessions.
- After the conference, ECI will send an updated participant list to all participants. Please check your listing now and if it needs updating, you may correct it at any time by logging into your ECI account.
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Monday, June 13, 2016

07:30 - 08:30 Breakfast buffet

08:30 – 10:30 **Session I: Break Through Developments in Vaccinology**
Chairs: Florian Krammer, The Mount Sinai Hospital, USA, and Hari Pujar, Moderna Therapeutics, USA

08:30 – 09:00 **A universal influenza virus vaccine candidate confers protection against pandemic H1N1 infection in ferrets**
Raffael Nachbagauer, Icahn School of Medicine at Mount Sinai, USA

09:00 – 09:30 **Single-cell analysis of Influenza A virus-infected cells for the optimization of cell culture-based vaccine production**
Sascha Young Kupke, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

09:30 – 10:00 **Development of Typhax, a Salmonella Typhi Vi polysaccharide protein capsular matrix vaccine**
Kevin P. Killeen, Matrivax R&D Corp, USA

10:00 – 10:30 **Quantitative, molecular-level analysis of the serum antibody repertoire reveals unanticipated features of the response to seasonal influenza vaccination**
Jiwon Lee, The University of Texas at Austin, USA

10:30 - 11:00 Coffee break (Sponsored by Applikon Biotechnology B.V.)

11:00 – 13:00 **Session II: Issues and Case Studies in Process Development**
Chairs: Udo Reichl, Max Planck, Germany and Charles Lutsch, Shantha Biologics, India

11:00 – 11:24 **Upstream and downstream process development of a Vero cell-based yellow fever vaccine**
Leda R. Castilho, Federal University of Rio de Janeiro (UFRJ), Brazil

11:24 – 11:48 **Fast-track lentiviral vector upstream process development: Leveraging high-throughput process monitoring, single-use bioreactor scalability**
Nicolas Sève, Sanofi Pasteur, France

11:48 – 12:12 **Hollow fiber-based high-cell-density and two-stage bioreactor continuous cultivation: Options and limits towards process intensification for virus production**
Yvonne Genzel, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

12:12 – 12:36 **A live attenuated RSV vaccine, process development studies**
Yvonne E. Thomassen, Intravacc, Netherlands

12:36 – 13:00 **Genetic engineering of vaccine manufacturing cell lines enhances poliovirus and enterovirus 71 production**
Jon M. Karpilow, Proventus Bio, USA

13:00 - 14:00 Lunch
Monday, June 13, 2016 (continued)

14:00 - 15:30  
**Workshop I: Are regulatory hurdles limiting vaccine manufacturing innovation?**  
Facilitators: Katey Owen, The Bill and Melinda Gates Foundation, USA and David Robinson, Robinson Vaccines and Biologics LLC, USA

15:30 - 16:00  
Ad hoc discussions/networking time

16:00 - 18:00  
**Session III: Formulating and Delivering Vaccines**  
Chair: David Volkin, University of Kansas, USA

16:00 – 16:30  
**Adjuvants in preclinical and clinical development: The do and don’t**  
Nathalie Garçon, BIOASTER Technology Research Institute, France

16:30 – 17:00  
**Combining DOE with an empirical approach to improve vaccine formulation development**  
Jill Livengood, Takeda, USA

17:00 – 17:30  
**Development of a thermostable ID93 + GLA-SE vaccine using a design of experiments (DOE) approach**  
Ryan M. Kramer, Infectious Disease Research Institute (non-profit), USA

17:30 – 18:00  
**Controlled, pulsatile release of thermostabilized inactivated polio vaccine from PLGA-based microspheres**  
Stephany Y. Tzeng, Massachusetts Institute of Technology, USA

18:00 - 20:00  
Dinner

20:00 - 22:00  
**Poster Session I with Social Hour**  
Chairs: Valerie Mermall, Protein Sciences, USA, Ruth Pastor, UNAM, Mexico, Antonio Roldao, IBET, Portugal
Tuesday, June 14, 2016

07:30 - 08:30 Breakfast buffet

08:30 – 10:30 **Session IV: Therapeutic Vaccines**
Chairs: Jean Boyer, Inovio, USA, and Tarit Mukhopadhyay, University College London, United Kingdom

08:30 – 09:00 **Current technologies for advancing HIV vaccines**
Vadim Tsvetnitsky, IAVI, USA

09:00 – 09:30 **Applications of DNA vaccine technology towards difficult immune targets**
David Weiner, University of Pennsylvania, USA
*(Lecture sponsored by Vaccine Journal (Elsevier))*

09:30 – 10:00 **Advancing the mRNA therapeutics platforms for vaccines**
Hari Pujar, Moderna Therapeutics, USA

10:00 – 10:30 **Vaccine based immunotherapy regimen (VBIR) for the treatment of prostate cancer**
Helen Cho, Pfizer, USA

10:30 - 11:00 Coffee break *(Sponsored by GE Healthcare)*

11:00 - 12:00 **Keynote lecture**
**Development of immunotherapeutic immunizations for virus infections and cancer**
Ian Frazer, University of Queensland, Australia

12:00 - 13:30 **Workshop II: Academy-Industry Interactions for Advancing in Vaccine Development**
Facilitators: Alex Xenopoulos, EMD Millipore, USA and Manuel JT Carrondo, IBET, Portugal

14:00 - 19:30 Pick up boxed lunch

Boat excursion and guided tour of Faro

19:30 Dinner on your own
Wednesday, June 15, 2016

07:30 - 08:30  Breakfast buffet

08:30 - 10:30  Session V: Getting Vaccines to the Market: Case studies
Chair: Rebecca Sheets, Grimalkin Partners, USA and Danilo Casimiro, Aeras, USA

08:30 – 09:00  RSV vaccines for the young and the old
Albert E. Price, MedImmune, USA

09:00 – 09:30  Development, manufacturing, and supply of MSD’s Ebola vaccine
Jeffrey T. Blue, Merck Sharp & Dohme Corp., USA

9:30 – 10:00  Third generation vaccine for world eradication of poliomyelitis
Emilie Rodrigues, Intravacc, Netherlands

10:00 – 10:30  Improving global human health through norovirus virus-like particle manufacturing
Scot Shepard, Takeda Vaccines, USA

10:30 - 11:00  Coffee break (Sponsored by Medimmune)

11:00 - 12:00  Keynote Lecture
How is vaccine R&D pipeline strategy going to evolve for pharm industry…?
Johan Van Hoof, Janssen Research and Development, Belgium

12:00 - 13:00  Ad hoc discussions / networking

13:00 - 14:00  Lunch

14:00 - 15:30  Workshop III: Vaccine Design and Evaluation - The iVAX Toolkit
Facilitator: Frances Terry, EpiVax, USA

15:30 - 17:00  Ad hoc discussions / networking

17:00 – 18:00  Session II: Issues and Case Studies in Process Development (continued)
Chair: Udo Reichl, Max Planck, Germany and Charles Lutsch, Shantha Biologics, India

17:00 – 17:20  Challenges in the development and scale-up of a purification process for an attenuated live virus vaccine candidate
Matthew Woodling, Merck & Co., Inc., Pennsylvania, USA

17:20 – 17:40  Insect cells platforms for fast production of Pseudo-Typed VLPs for drug and vaccine development
Antonio Roldao, IBET, Portugal

17:40 – 18:00  Determining whether adsorption state is a critical attribute in aluminum adjuvanted vaccines
Garry Morefield, VaxForm, USA

18:00 - 20:00  Dinner
Wednesday, June 15, 2016 (continued)

20:00 - 22:00  
*Poster session II and Social Hour*  
Chairs: Valerie Mermall, Protein Sciences, USA, Ruth Pastor, UNAM, Mexico, Antonio Roldao, IBET, Portugal
Thursday, June 16, 2016

07:30 - 08:30  Breakfast buffet

08:30 – 10:30  
**Session VI: Vaccine Characterization and Analytics**  
**Chairs:** Linda Lua, University of Queensland, Australia, and Indresh Srivastava, Protein Sciences, USA

08:30 – 09:00  
Analytical characterization of human Cytomegalovirus vaccine and vaccine induced humoral responses  
Sha Ha, Merck & Co., Inc., Pennsylvania, USA

09:00 – 09:30  
Multi-tasking an inactivated influenza vaccine to provide rapid innate immune-system mediated protection and subsequent long-term adaptive immunity against influenza and secondary pneumococcal infections  
Brendon Y. Chua, The University of Melbourne, Australia

09:30 – 10:00  
Correlations of antibody response phenotype to genotype revealed by molecular amplification fingerprinting  
Sai Reddy, ETH Zurich, Switzerland

10:00 – 10:30  
Immune engineering enhances H7N9 vaccine immunogenicity by regulatory T cell epitope deletion in hemagglutinin  
Annie De Groot, EpiVax, Inc., Institute for Immunology and Informatics, University of Rhode Island, USA

10:30 - 11:00  
Coffee break (Sponsored by Pfizer)

11:00 – 13:00  
**Session VII: One World, One Health**  
**Chairs:** Jean-Christophe Audonnet, Merial, France, Juan Garza, UNAM, Ab Osterhaus, University of Veterinary Medicine Hannover, Germany

11:00 – 11:30  
Vaccination as a tool to reduce antimicrobial resistance worldwide  
Bernard Vallat, OIE, France

11:30 – 11:55  
Structural-based designed modular capsomere comprising HA1 as low-cost poultry influenza vaccine  
Jarurin Waneesorn, The University of Queensland, Australia

11:55 – 12:20  
Development of a vaccine based on recombinant subunit proteins to protect humans and animals against filovirus disease  
Axel T. Lehrer, University of Hawaii, USA

12:20 – 12:40  
How to deliver new vaccines under very short timelines: The ZAPI project  
Jean Christophe Audonnet, Merial, France

12:40 – 13:00  
From virus discovery to intervention  
Ab Osterhaus, University of Veterinary Medicine Hannover, Germany

13:00 - 14:00  
**Poster session I with Grazing Lunch**  
**Chairs:** Valerie Mermall, Protein Sciences Corporation, USA, Ruth Pastor, UNAM, Mexico, Antonio Roldao, IBET, Portugal
Thursday, June 16, 2016 (continued)

14:00 - 15:00  
**Poster session II with Grazing Lunch**  
Chairs: Valerie Mermall, Protein Sciences Corporation, USA, Ruth Pastor, UNAM, Mexico, Antonio Roldao, IBET, Portugal

15:00 - 16:00  
Ad hoc discussions / Networking

16:00 - 19:00  
**Session VIII: New Challenges and Technologies in Vaccine Development**  
Chairs: Albert Price, MedImmune, USA and Odile Leroy, European Vaccine Initiative, Germany

16:00 – 16:25  
**Systems biology and single cell approaches to study human immune responses to vaccination**  
John Tsang, NIAID, USA

16:25 – 16:50  
**Structure-based Vaccine Design: Lessons from RSV F**  
Jason McLellan, Geisel School of Medicine at Dartmouth, USA

16:50 – 17:15  
**Induction of antigen-specific immune tolerance with synthetic nanoparticle vaccines**  
Petr Ilynskii, Selecta Biosciences, USA

17:15 – 17:45  
**Universal and in-process analytical tool for Influenza quantification using a label-free technology**  
Sofia Carvalho, iBET/ITQB, Portugal

17:45 – 18:10  
Coffee break

18:10 – 18:35  
**Applications of high-throughput single B-cell sequencing to accelerate rational vaccine design**  
Brandon J. DeKosky, Vaccine Research Center / NIAID, USA

18:35 – 19:00  
**Plant-based technologies to enable rapid response to Ebola outbreak**  
Jerzy Karczewski & Vidadi Yusibov, Fraunhofer USA, USA

19:00 - 20:00  
**Closing Keynote**  
Katey Owen, Deputy Director, Vaccines Development CMC, The Bill & Melinda Gates Foundation, USA

20:00 - 22:00  
Conference Banquet
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<td>07:30 - 09:00</td>
<td>Breakfast Buffet</td>
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1. Influenza vaccine production using cell culture with microcarriers
   Alex Xenopoulos, EMD Millipore, USA

2. Evaluation and scale-up of single-use bioreactors for the production and harvesting of a hepatitis C vaccine candidate
   Alex Xenopoulos, EMD Millipore, USA

3. Computational fluid dynamics modeling for HPV fermentation bioreactors
   Tracie Spangler, Merck, USA

4. Development of a stabilized trimer pre-fusion RSV F recombinant viral glycoprotein vaccine
   Richard M. Schwartz, NIAID, NIH, USA

5. Optimization of sulfated cellulose membrane adsorbers for the purification of influenza virus
   A. Raquel Fortuna, Max-Planck Institute for Dynamics of Complex Technical Systems, Germany

6. Purification of cell culture-derived influenza virus via continuous chromatography
   Laura M. Fischer, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

7. Optimization and scale-up of cell culture and purification processes for production of an adenovirus-vectored tuberculosis vaccine candidate
   Aziza Manceur, National Research Council, Canada

8. Pan-HA antibodies for influenza detection and quantification
   Aziza Manceur, National Research Council, Canada

9. High titer production of HIV-1 virus-like particles by CAP-T cells
   Sonia Gutiérrez-Granados, Universitat Autònoma de Barcelona, Spain

10. Characterization of HA and NA-containing VLPs produced in suspension cultures of HEK 293 cells.
    Amine Kamen, McGill University, Canada

    Emma Petiot, Université Claude Bernard Lyon 1 - CIRI, France

12. Pseudo-affinity purification and formulation of a cell-culture derived whole influenza virus vaccine using magnetic sulfated cellulose particles
    Michael Martin Pieler, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

13. Trumenba: A case study for development of a drug substance manufacturing process through commercialization
    Khurram Sunasara, Pfizer, USA

14. A stabilized subunit vaccine for ebola virus
    Keith Chappell, University of Queensland, Australia
15. Improved seed train strategy applied to PER.C6® cells for manufacturing readiness in vaccines production  
   Piergiuseppe Nestola, Janssen Vaccines AG, Switzerland

16. History and development of a liquid formulation for adenoviral vaccines  
   Lara Babich, Janssen Infectious Diseases & Vaccines, Netherlands

17. Tetraspanins displayed in retrovirus-derived virus-like particles and their impact in vaccine development  
   Hugo R. Soares, iBET, Portugal

18. A modular approach for efficient production of multi-HA Influenza VLP-based vaccines  
   António Roldão, Instituto de Biologia Experimental e Tecnológica (iBET), Portugal

19. Improving downstream processing of enveloped virus-like particles with multi-column chromatography  
   Ricardo Silva, iBET, Portugal

20. A click chemistry strategy to specifically monitor and improve purification of Influenza virus-like particles  
   Sofia Carvalho, iBET/ITQB, Portugal

21. Enveloped virus-like particles purification using an all-filtration technology platform  
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22. The papaya mosaic virus (PapMV) nanoparticles; a promising tool in vaccine development.  
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23. Novel pulsatile-release microparticles for single-injection vaccination  
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24. Structurally confined influenza subunit vaccines in the prefusion conformation elicit a potent neutralizing antibody response  
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27. Study of rabies VLPs expression in BHK-21 cell line for vaccine applications  
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28. Expression of rabies VLPs in adherence and suspension conditions: a flexible platform for rabies vaccine production  
   Diego Fontana, Universidad Nacional Del Litoral, Argentina

29. Process economy effects of modernizations in vaccine purification  
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30. Propagation of influenza and MVA virus in cascades of continuous stirred tank bioreactors: challenging the "Von Magnus effect"  
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31. **Intensification of MVA and influenza virus production through high-cell-density cultivation approaches**  
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32. **Production of a Nanoplasmid™ with a large gene insert using the HyperGRO™ fermentation process**  
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33. **Virus-like particles adsorption in anion exchange chromatography media**  
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34. **Ready to use gamma irradiated microcarriers for virus production in single use bioreactor systems**  
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35. **Development of a versatile vaccination platform based on papaya mosaic virus (PapMV) nanoparticles**  
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36. **Evaluation of producer cell lines for yellow fever virus production in up to 1 L bioreactor scale**  
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37. **Propagation of Brazilian Zika virus strains in static, microcarrier-based and suspension cultures using BHK and Vero cells**  
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39. **Optimizing scale-up of Vero cells cultured on microcarriers in serum-free medium for vaccine production**  
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40. **Custom open polyethersulfone ultrafiltration membranes for vaccines**  
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41. **Highly cross-conserved burkholderia T cell epitopes generate effector T cell responses in vitro**  
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42. **Predicting tolerance in vaccine antigens: Application to influenza, HCV and HIV**  
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47. **VP2 potentiates the protection induced by VP6 against the rotavirus infection in a DNA vaccine model**
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