

Spring 5-21-2012

# Conference Program

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# *Program*

# **Vaccine Technology IV**

**May 20-25, 2012  
Albufeira, Portugal**

## **Program Co-Chairs**

**John G. Auniš, Ph.D.  
Barry C. Buckland, Ph.D.  
Kathrin Jansen, Ph.D.  
Paula Marques Alves, Ph.D.**



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**David Weiner**, University of Pennsylvania, USA

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**Sunday, May 20, 2012**

|               |  |
|---------------|--|
| 15:30 – 18:00 | Conference check-in  |
| 18:00 – 18:30 | <b><u>Welcoming Remarks and Opening of the Conference</u></b><br><b>Conference Chairs Introduction</b><br><b>Celebrating 50 years of ECI Conferences - John Aunins</b> |
| 18:30 – 19:30 | <b>Keynote</b><br><b>Malaria Vaccines as a model of vaccine development</b><br>David Kaslow, PATH, Malaria Vaccine Initiative, USA                                     |
| 19:30 – 20:15 | Welcome Reception with Folk Dancing  |
| 20:15 – 22:00 | 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.

**Monday, May 21, 2012**

- 07:00 – 08:30 Breakfast
- 08:30 – 11:00 **Session I: Vaccine target identification and validation**  
Session Chairs:  
George Siber, Genocea  
David Weiner, University of Pennsylvania
- 08:35 – 09:05 **Comprehensive T-cell antigen discovery using a genomic approach**  
Jessica Flechtner, Genocea Biosciences, USA
- 09:05 – 09:35 **Rational design of a fully synthetic nanoparticle-based vaccine for smoking cessation**  
Takashi Kei Kishimoto, Selecta Biosciences, USA
- 09:35 – 10:05 **Tolerogenic vaccination exploiting apoptotic mechanisms via erythrocyte-to-hepatic targeting**  
Jeffrey A. Hubbell, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
- 10:05 – 10:30 **Development of a vaccine against clostridium difficile infection: Design, purification and biological activities of recombinant toxin antigen fragments**  
Jerzy Karczewski, Merck, USA
- 10:30 – 11:00 Coffee break
- 11:00 – 11:30 **Molecular deconvolution of the monoclonal antibodies that comprise the serum response to vaccination**  
George Georgiou, University of Texas, USA
- 11:30 – 13:10 **Session II: Technology challenges in developing world market (Part 1)**  
Session Chairs:  
Leda Castilho, Federal University of Rio de Janeiro  
Paula Alves, IBET
- Sponsored by ATMI Life Sciences**
- 11:30 – 12:00 **Instituto Butantan - 111 years producing immunobiologicals: New challenges**  
Jorge Kalil, Instituto Butantan, Brazil
- 12:00 – 12:20 **PATH vaccine global development program**  
George A. Robertson, PATH, USA
- 12:20 – 12:50 **Recombinant VLP based human vaccines for emerging markets**  
Qinjian Zhao, Xiamen University, China
- 12:50 – 13:10 **Establishing human vaccine manufacturing in Southern Africa**  
Morena Makhoana, The Biovac Institute, South Africa
- 13:10 – 14:00 Lunch



**Monday, May 21, 2012 (continued)**

- 14:00 – 15:30      **Session III: Late stage and recently launched vaccines**  
Session Chairs:  
Nathalie Garcon, GlaxoSmithKline  
Kathrin Jansen, Pfizer
- Sponsored by GE Healthcare Life Sciences***
- 14:00 – 14:30      **Development of Pfizer bivalent RLP2086 vaccine for prevention of invasive disease caused by *Neisseria Meningitidis* Serogroup B**  
Joe Eiden, Pfizer, USA
- 14:30 – 15:00      **Recombinant influenza vaccine**  
Manon Cox, Protein Sciences, USA
- 15:00 – 15:30      **Process understanding approach for a late-stage recombinant protein vaccine produced in *Saccharomyces Cerevisiae***  
José Manuel Otero, Merck, USA
- 15:30 – 17:00      *ad hoc* sessions, free time
- 17:00 – 19:00      **Session II: Technology challenges in developing world market (Part 2)**
- 17:00 – 17:30      **Challenges in development of an anti-idiotypic cancer vaccine**  
Adolfo Castillo Vitloch Center of Molecular Immunology, Cuba
- 17:30 – 18:00      **Expectation of China's contribution to world vaccine development and supplies: Status, strategy and international approach**  
Li Shi, Shanghai Zerun Biotechnology Ltd. Co., China
- 18:00 – 18:20      **Rabies virus-like particles expressed in HEK293 cells**  
Diego Fontana, Universidad Nacional del Litoral, Argentina
- 18:20 – 18:40      **The role of public-private partnerships in advancing vaccine technologies and improving vaccine effectiveness and delivery for developing countries**  
Ray Cummings, PATH, USA
- 18:40 – 19:00      **Challenges in clinical batches production of malaria vaccines**  
Nicolas Havelange, European Vaccine Initiative, Germany
- 19:00 – 20:30      Dinner
- 20:30 – 22:30      Poster Reception

**Tuesday, May 22, 2012**

- 07:00 – 08:30 Breakfast
- 08:30 – 10:30 **Session IV: Vaccine stability, characterization and delivery**  
Session Chairs:  
Debbie Drane, CSL Limited  
Robert Evans, Merck, USA
- 08:30 – 08:50 **Optimization of vaccine thermal stability through high-throughput formulation - Development of a screening platform and application to measles vaccine**  
Iain McFadyen, ex-Transform Pharmaceuticals, Inc., USA
- 08:50 – 09:10 **Nanopatches for targeted vaccine delivery to skin: Improving vaccines**  
Mark Kendall, AIBN, University of Queensland, Australia
- 09:10 – 09:30 **Formulation and stability studies for a Chikungunya virus-like particle (Chikv VLP) based vaccine**  
Richard Schwartz, Vaccine Production Program Laboratory/VRC/NIAID, USA
- 09:30 – 09:50 **High throughput formulation design for a stable lyophilized virus-like particle vaccine against Group A Streptococcus**  
Yap Pang Chuan, AIBN, University of Queensland, Australia
- 09:50 – 10:10 **Challenges in optimizing formulations for multi-antigen vaccines**  
Lakshmi Khandke, Pfizer, USA
- 10:10 – 10:30 **Stabilization technology for viral vaccines and adjuvanted vaccines**  
Stephen Ward, Stabilitech Ltd., UK
- 10:30 – 11:00 Coffee break
- 11:00 – 13:00 **Session V: Veterinary vaccines**  
Session Chairs:  
Robert Nordgren, Merial  
Ian Tarpey, Merck
- 11:00 – 11:30 **A new successful vaccine against babesiosis: Any use for malaria?**  
Theo Schetters, Merck, USA
- 11:30 – 12:00 **Leishmaniasis vaccine development: Animals as models and patients**  
Steven Reed, IDRI
- 12:00 – 12:30 **Rift valley fever: Next generation vaccines for an old foe**  
Brian Bird, CDC, USA
- 12:30 – 12:50 **Functional genomics as a tool to define a molecular signature of effective vaccination against foot and mouth disease virus**  
Jose A. Chabalgoity, Departamento de Desarrollo Biotecnologico, Facultad de Medicina, Universidad de la Republica, Uruguay
- 13:00 – 14:30 Lunch
- 14:30 – 15:30 *ad hoc* sessions, free time

**Tuesday, May 22, 2012 (continued)**

- 15:30 – 19:00                    **Session VI: Oncology and therapeutic vaccines**  
Session Chairs:  
John Aunins, Janis Biologics  
Amine Kamen, National Research Council
- 15:35 – 16:15                    **Keynote: Oncolytic viruses as cancer therapies**  
Stephen Russell, Mayo Clinic, USA
- 16:15 – 16:35                    **Vaccine potential of replicating oncolytic virus vectors**  
John C. Bell, Ottawa Hospital Research Institute, Canada
- 16:35 – 17:05                    **The CMC challenges in developing an oncolytic immunotherapy**  
Colin Love, Amgen, USA
- 17:05 – 17:30                    Coffee break
- 17:30 – 17:50                    **Development of novel cell-based immunotherapies**  
Madhusudan Peshwa, Maxcyte, USA
- 17:50 – 18:10                    **Process development for a peptide conjugated qbeta virus-like particle (VLP) vaccine**  
Jennifer Thorn, Pfizer, USA
- 18:10 – 18:30                    **Chimpanzee ad vector technology platform for prophylactic and therapeutic genetic vaccine applications**  
Stefano Colloca, Okairos, Italy
- 18:30 – 18:50                    **Cervical cancer immunotherapy: Induction of HPV specific CTLs in human volunteers after VGX-3100 immunization**  
Niranjan Y. Sardesai, Ph.D., Inovio Pharmaceuticals, Inc., USA
- 19:00 – 20:30                    Dinner
- 20:30 – 22:30                    Poster Reception

## Wednesday, May 23, 2012

- 07:00 – 08:30 Breakfast
- 08:30 – 12:40 **Session VII: Bioprocess development and analytical tools**  
Session Chairs:  
Luis Maranga, Novartis Vaccines & Diagnostics (NV&D)  
Laura Palomares, UNAM, Mexico
- Sponsored by BIA Separations***
- 8:30 – 09:00 **Microbial fermentation: New tools to speed-up vaccine antigen development and increase process knowledge**  
Catherine Jourdat, Sanofi Pasteur, France
- 09:00 – 09:30 **Bacterial expression of a VLP Sub-unit for rapid and cheap influenza vaccination**  
Anton Middelberg, University of Queensland, Australia
- 09:30 – 10:00 **High cell density cultivations for influenza virus production**  
Yvonne Genzel, Max Planck Institute for Dynamics of Complex Technical Systems, Germany
- 10:00 – 10:20 **RMCE-based SF9 cell factory for production of multimeric VLPs**  
Ana P. Teixeira, ITQB-UNL/IBET, Portugal
- 10:20 – 10:50 Coffee break
- 10:50 – 11:20 **Systematic characterization of adventitious agent testing for biological medicinal products**  
Rebecca Sheets, NIH, National Institute of Allergy & Infectious Diseases, USA
- 11:20 – 11:50 **Automation and multiplexing of immunoassays: Improving precision and throughput**  
Iliia Tikhonov, PPD, USA
- 11:50 – 12:10 **Developing a suite of analytics to support process development for the manufacture of polysaccharides**  
Aaron Noyes, University College London, UK
- 12:10 – 12:40 **Prediction of serum bactericidal and opsonophagocytosis using a high-throughput flow cytometric antibody-mediated complement binding assay for *Neisseria Meningitidis***  
Andrew Gorringe, Health Protection Agency, UK
- 12:40 – 14:00 Lunch
- 14:00 – 15:00 *ad hoc* sessions
- 15:00 – 16:30 **Session VIII: Biodefense, pandemic & emerging disease vaccines: (Part 1)**  
Session Chairs:  
Barry Buckland, University College London  
Phil Gomez, PriceWaterhouseCoopers
- 15:00 – 15:30 **Development of vaccines for Ebolavirus**  
Nancy Sullivan, NIH, USA

**Wednesday, May 23, 2012 (continued)**

15:30 – 16:00

**BARDA vaccine program**  
Bob Huebner, BARDA, USA

16:00 – 16:30

**Sabin-IPV process development and optimization for cost-price reduction and technology transfer purposes**  
Wilfried A.M. Bakker, National Institute for Public Health and the Environment (RIVM), Netherlands

17:00 – 22:00

Excursion (Dinner on own)

**Thursday, May 24, 2012**

- 07:00 – 08:30 Breakfast
- 08:30 – 13:00 **Session IX: New technologies and approaches**  
Session Chairs:  
Mike Hoare, University College London  
Herve Pinton, Sanofi Pasteur
- Sponsored by Sartorius Stedim Biotech***
- 08:30 – 09:00 **Bacterium-like particles as delivery vehicles for multimeric antigens**  
Kees Leenhouts, Mucosis B.V., Netherlands
- 09:00 – 09:20 **Production of bacterial outer membrane vesicles for antigen delivery**  
Bas van de Waterbeemd, RIVM/Vaccinology/Process Development, Netherlands
- 09:20 – 09:50 **Multiply activated VLP influenza vaccines**  
James Swartz, Stanford University, USA
- 09:50 – 10:10 **Endotoxin-free *E. Coli* hosts for vaccine discovery and production**  
David Bramhill, Research Corporation Technologies, USA
- 10:10 – 10:30 **Micro-scale vaccine development – A tools set for success**  
Tarit K. Mukhopadhyay, University College London, UK
- 10:30 – 11:00 Coffee break
- 11:00 – 11:30 **Novel glycoconjugate vaccines based on rationally designed synthetic carbohydrate antigens**  
A. Stewart Campbell, Ancora Pharmaceuticals, Inc., USA
- 11:30 – 12:00 **Automated single-use centrifugation and cell-washing solution for vaccine manufacturing**  
Sunil Mehta, kSep Systems, LLC
- 12:00 – 12:30 **Utilizing 'omics tools to investigate the impact of process changes on product quality in cell culture-based influenza vaccine production**  
Erdmann Rapp, Max Planck Institute for Dynamics of Complex Technical Systems
- 12:30 – 13:00 **Monolithic columns for purification and in-process control of viruses and virus-like particles**  
Lidija Urbas, BIA Separations, Slovenia
- 13:00 – 14:00 Lunch
- 14:00 – 15:00 *ad hoc* sessions, free time
- 15:00 – 17:20 **Session VIII: Biodefense, pandemic & emerging disease vaccines: (Part 2)**
- 15:00 – 15:25 **Plant-made influenza virus-like particles: For pandemic and beyond**  
Nathalie Charland, Medicago, Canada
- 15:25 – 15:50 **Flunisyn: Advanced development of a synthetic universal influenza t-cell vaccine**  
Campbell Bunce, PhD, Immune Targeting Systems (ITS) Ltd., UK

**Thursday, May 24, 2012 (continued)**

- 15:50 – 16:15      **Purification of cell-based influenza H5N1 viruses by liquid chromatography technologies**  
Alan Yung-Chih Hu, National Institute of Infectious Diseases and Vaccinology, NHRI, Taiwan
- 16:15 – 16:40      **Viral sensitizer technology improves yield of modified vaccinia ankara from available cell substrates**  
Fabrice Le Boeuf, Ottawa Hospital Research Institute, Center for Innovative Cancer Therapeutics, Canada
- 16:40 – 17:05      **Suspension vero cells (SVERO) for poliovirus production: Effect of culture passage on growth kinetics and productivity**  
Guillermina Forno, Universidad Nacional del Litoral, Argentina
- 17:05 – 17:35      Coffee break
- 17:35 – 18:05      **Keynote**  
**Monitoring immune response on a cell by cell basis**  
Christopher Love, MIT, USA
- 19:00 – 24:00      Banquet and closing

**Friday, May 25, 2012**

07:00 – 10:30

Breakfast and departures



# Vaccine Technology IV

## Poster List

1. **Development of multivalent protein capsular matrix vaccine (PCMV) technology**  
Kevin Killeen, Matrivax R&D Corporation, USA
2. **Development and scale-up of a high yield transient transfection platform for the production of a Chikungunya virus-like particle vaccine**  
Joshua Merritt, National Institutes of Health, USA
3. **Visualization of domain structure and flexibility of proteins and protein complexes using TEM**  
Bridget Carragher, NanoImaging Services, Inc., USA
4. **Impact of the ligand density on adenovirus serotype 5 purification using membrane chromatography.**  
Piergiuseppe Nestola, IBET/ITQB-UNL, Portugal
5. **Towards a better understanding of on-line multifrequency permittivity measurements of adherent Vero cell cultures in perfused processes**  
A. El Wajgali, CNRS-Université de Lorraine, France
6. **Universal influenza virus vaccine based on the conserved stalk domain of the hemagglutinin**  
Florian Krammer, Mount Sinai School of Medicine, USA
7. **Rapid cell line selection and process development using high-throughput technologies, design of experiments (DOE) and quality by design**  
Tiffany D Rau, Rau and Associates, USA
8. **New approaches in intensification and optimization of integrated malaria vaccine production with *Pichia pastoris***  
Jens Fricke, HAW-Hamburg University of Applied Sciences, Germany
9. **Evaluation of critical process parameters and operation range for successful scale up and robust manufacturing of reolysin<sup>®</sup>**  
Amine Kamen, National Reserach Council, Canada
10. **Tetravalent dengue vaccine produced at Insituto Butantan**  
Vanessa Takinami, Instituto Butantan, Brazil
11. **Pentavalent rotavirus vaccine - stability study**  
Vanessa Takinami, Instituto Butantan, Brazil

12. **Analysis and optimization of a sequential malaria vaccine production process with in-situ product removal (ISPR)**  
Sanja Martens, University of Applied Sciences Hamburg, Germany
13. **Dendritic cell-targeting nanoparticle-based pulmonary vaccines for inducing potent cellular immune responses**  
Jeffrey A. Hubbell, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
14. **Engineering of *Escherichia coli* strains specifically for plasmid biopharmaceutical production**  
Geisa A. L. Gonçalves, Instituto Superior Técnico (IST), Portugal
15. **Semliki forest virus expressing rabies virus glycoprotein: Synthesis and protection studies.**  
Carlos A Pereira, Instituto Butantan, Brazil
16. **Affordable inactivated polio vaccine using modular facilities and disposable technology – potential for local sustainable production of vaccine in low- and middle-income countries**  
A.G.Lopes, LLB Global Health Solutions Ltd., United Kingdom
17. **Influenza production kinetics in HEK293 cell cultures**  
Amine Kamen, National Research Council of Canada - Vaccine Program, Canada
18. **Target cells for antibodies detection in rabies vaccine control**  
Diego Fontana, Universidad Nacional del Litoral, Argentina
19. **A strategy for scale-up of adherent Vero cells using cytodextm microcarriers and WAVE bioreactortm systems**  
Ann-Christin Magnusson, GE Healthcare, Sweden
20. **Live attenuated influenza virus production in batch high cell density cultivation of suspension AGE1.CR.pix cells**  
Verena Lohr, Max-Planck-Institute for Dynamics of Complex Technical Systems, Germany
21. **Quantification of GFP-labeled virus-like particles by spectrofluorometry**  
Francesc Godia, Universitat Autònoma de Barcelona, Spain
22. **Development of serum-free medium supplemented with non-animal derived components for production of virus-like particles in HEK 293 cell cultures**  
Francesc Godia, Universitat Autònoma de Barcelona, Spain
23. **Investigation into proteolytic clipping of product from manufacturing consistency lots**  
Michael Kosinski, Merck & Co., Inc., USA
24. **Production of safe transgene delivery vectors- minicircles**  
Michaela Simcikova, Instituto Superior Técnico, Portugal

25. **An animal component free medium that promotes the growth of various animal cell lines for the production of viral vaccines**  
Héla Kallel, Institut Pasteur de Tunis, Tunisia
26. **Study of dengue virus replication in vero cells**  
Vanessa Harumi Takinami, Instituto Butantan, Brazil
27. **Development a vectored vaccine against Hepatitis E virus**  
Héla Kallel, Institut Pasteur de Tunis, Tunisia
28. **Subunit Leptospiral immunoglobulin-like (Lig) protein vaccine protects against lethal challenge in the hamster model of leptospirosis**  
Marco Alberto Medeiros, Oswaldo Cruz Foundation (FIOCRUZ), Brazil
29. **Improvements on peste des petits ruminants vaccine stability during production and storage**  
Paula Alves, IBET/ITQB-UNL, Portugal
30. **Production of adenovirus vectors in human amniocyte-derived cells**  
Paula Alves, IBET/ITQB-UNL, Portugal
31. **Development of a membrane adsorber-based capture step for the purification of yellow fever virus**  
Tania P. Pato, Oswaldo Cruz Foundation (FIOCRUZ), Brazil
32. **Process development and technology transfer of a high yield fermentation process for cgmP production of plasmid DNA vaccines**  
Aaron E. Carnes, Nature Technology Corporation, USA
33. **Sensitive methods for evaluation of antibodies for host cell protein analysis and screening of impurities through out a vaccine process**  
Christine Sund-Lundström, GE Healthcare Biosciences AB, Sweden
34. **Use of a hydrocyclone as cell retention device in a perfusion process with BHK-21 Cells infected with bovine rabies virus**  
Ricardo Medronho, Federal University of Rio de Janeiro, Brazil
35. **Optimization of TRT virus production in bioreactor**  
Lidia Garcia, Pfizer Olot S.L.U, Spain
36. **Adenovirus based vaccine formulations: A 5.5-year stability storage study**  
Marcos F. Q. Sousa, Universidade Nova de Lisboa, Portugal
37. ***In vivo* active delivery of antigens to splenic dendritic cells by engineered bio-nanocapsules, hepatitis B virus surface antigen L protein particles**  
Hidenori Matsuo, Nagoya University, Japan

38. **Influenza antigen design on virus-like particles**  
Linda Lua, The University of Queensland, Australia
39. **Development of monovalent oral poliovirus vaccines types 1, 2, and 3**  
Marisela Morales Moreno, Laboratorios de Biologicos y Reactivos de Mexico S.A. de C.V. (BIRMEX), Mexico
40. **Linear scalability for viral entities production in icellis™ disposable fixed-bed bioreactor from bench-scale to industrial scale**  
Jean-Christophe Drugmand, ATMI LifeSciences, Belgium
41. **Toolbox for non-intrusive structural and functional analysis of recombinant VLP based vaccines: A case study with hepatitis B vaccine**  
Clinton Potter, Nanolmaging Services, Inc., USA
42. **Structural tailoring of HEV capsid protein for gaining insights into vaccine design**  
Shaowei Li, Xiamen University, China
43. **Vaccine candidate process verification and performance qualification**  
Jennifer Haas, Merck & Co., Inc., USA
44. **Three VP6 formats: Nanotubes, virus-like particles and VP6 trimers protected mice against rotavirus infection**  
Ana Ruth Pastor, Instituto de Biotecnología-Universidad Nacional Autónoma de México, Mexico
45. **N-glycosylation determines the stability and immunogenicity of recombinant influenza hemagglutinin**  
Laura A. Palomares, Instituto de Biotecnología. Universidad Nacional Autónoma de México, Mexico
46. **Use of yeast extracts containing rotavirus-like particles and soluble rotavirus proteins as a low-cost veterinary vaccine**  
William A. Rodríguez-Limas, Instituto de Biotecnología, Universidad Nacional Autónoma de México, Mexico
47. **Pre-treatment of Japanese encephalitis virus with formaldehyde and glycine improves recovery from flow-through ion-exchange chromatography purification**  
Michael Hughson, University College London, United Kingdom
48. **Control and analysis of quaternary complexity in virus-like particle assembly**  
Yap Pang Chuan, The University of Queensland, Australia
49. **Development of cancer vaccine based on her-1 extracellular domain**  
Adolfo Castillo, Center of Molecular Immunology, Cuba
50. **Characterization of monolithic chromatographic support for phage purification**  
Lidija Urbas, BIA Separations, Slovenia

51. **Integration of monolithic analytical columns into the biopharmaceutical manufacturing process to enable fast and real-time HPLC analytical assay both up- and downstream**  
Lidija Urbas, BIA Separations, Slovenia
52. **Different strategies of pDNA purification processes on methacrylate monolithic columns**  
Daniela Marc, BIA Separations, Slovenia
53. **Characterization and immunogenicity of Chikungunya virus-like particle (CHIKV VLP) based vaccine**  
Richard Schwartz, National Institutes of Health, USA