Program

Vaccine Delivery and Stabilization: Improving the Reach of Vaccines

September 8 – 10, 2013
Boston, Massachusetts, USA

Co-Chairs:

Robert K. Evans
Merck & Co., USA

Mark A.F. Kendall
University of Queensland, Australia

Engineering Conferences International
32 Broadway, Suite 314
New York, NY 10004, USA
Phone: 1 - 212 - 514 - 6760, Fax: 1 - 212 - 514 - 6030
www.engconfintl.org – info@engconfintl.org
Hyatt Boston Harbor
101 Harborside Drive
Boston, Massachusetts, USA, 02128
Tel: 1-617-568-1234
Fax: 1-617-567-8856
Email: qualitybosha@hyatt.com
Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program, originally established in 1962, that provides opportunities for the exploration of problems and issues of concern to engineers and scientists from many disciplines.

ECI BOARD MEMBERS

Barry C. Buckland, President
Peter Gray
Michael King
Raymond McCabe
David Robinson
William Sachs
Eugene Schaefer
P. Somasundaran
Deborah Wiley

Chair of ECI Conferences Committee: William Sachs

ECI Technical Liaison for this conference: John Aunins

ECI Executive Director: Barbara K. Hickernell

ECI Associate Director: Kevin M. Korpics

©Engineering Conferences International
Organizing Committee

Tudor Arvinte (Therapeomic Inc., Switzerland)

S. Fernando Ausar (Sanofi Pasteur, Canada)

Murali Bilikallahalli (MedImmune, USA)

Dexiang Chen (PATH, USA)

Haihong Fong (GSK)

Mark Feinberg (Merck, USA)

Kristine Hansen (3M, USA)

Julian Hickling (Working in Tandem, UK)

Wim Jiskoot (University of Leiden, Netherlands)

Lakshmi Khandke (Pfizer, USA)

Yotam Levin (Nanopass Technologies, Israel)

Derek O’Hagen (Novartis, USA)

Mark Prausnitz (Georgia Institute of Technology)

Steve Reed (IDRI, USA), Michael Royals (Pharmajet, USA)

Manmohan Singh (Novartis, USA)

Vu Truong (Aridis Pharmaceuticals, USA)

David Volkin (University of Kansas, USA)

Bruce Weniger (Chiang Mai University and Associate Editor, Vaccine [Elsevier]).
Conference Sponsors

Bill & Melinda Gates Foundation

MedImmune

Novartis

Sanofi Pasteur

Vaxxas
Sunday, September 8, 2013

16:00 – 18:00  Check in / Registration (Ballroom Prefunction area)
18:00 – 18:30  Welcome remarks and Introduction
18:30 – 19:30  Keynote Speaker: Vaccines of the Future: Innovating Beyond the Antigen
Dr. Julie Gerberding, President, Merck Vaccines
19:30 – 20:15  Reception
20:15 – 22:00  Dinner

NOTES

- Audiotaping, videotaping and photography of presentations are strictly prohibited.
  - Please do not smoke at any conference functions.
- Turn your mobile phones to vibrate or off during technical sessions.
- Technical Sessions will be in the Grand Ballroom 1.
- Breakfasts and dinners will be in the Harborside Ballroom.
- Lunches will be outside on the Pavilion Lawn (weather permitting).
- Be sure to check your contact information on the Participant List in this program and make any corrections to your name/contact information online. A corrected copy will be sent to all participants after the conference.
- Speakers – Please leave at least 5 minutes for questions and discussion. Be available for discussion during meals and social periods
Monday, September 9, 2013

07:30 – 08:30  Breakfast

08:30 – 09:00  Opening remarks and Conference Session kickoff

Delivery Technologies & Devices:  Session #1
Session Chair: Mark Prausnitz, Georgia Institute of Technology, USA

09:00 – 09:30  Intradermal delivery and dose-sparing: vaccine-specific issues
Julian Hickling, Working in Tandem, Ltd., United Kingdom

09:30 – 10:00  Rational design of microprojection array-mediated vaccine delivery to skin, using mathematical modelling and experimental methods
Stefano Meliga, Australian Institute for Bioengineering and Nanotechnology, Australia

10:00 – 10:30  Intradermal Vaccination Using NanoPass’s Microneedles: Current Studies and Future Opportunities
Yotam Levin, Nanopass Technologies, Israel

Clinical evaluation of intradermal vs. subcutaneous Zostavax
Robert Evans, Merck and Co., Inc., USA

10:30 – 11:00  Coffee break

11:00 – 11:30  History, promise and recent trial results for cutaneous vaccination against influenza
Bruce G. Weniger, Chiang Mai University, Thailand/USA

11:30 – 12:00  Dermal polio vaccination using novel hollow microneedle technology
Wim Jiskoot, University of Leiden, Netherlands

12:00 – 12:30  Vaccination using a microneedle patch
Mark Prausnitz, Georgia Institute of Technology, USA

12:30 – 13:30  Lunch

Mechanisms:  Mode of Action - Session #2
Session Chair: Bruce G. Weniger, Chiang Mai University, Thailand/USA

13:30 – 14:00  Enhanced systemic immunogenicity achieved by co-localising vaccine with nanopatch-mediated skin damage adjacent to live cells
Alexandra Depelsenaire, Australian Institute for Bioengineering and Nanotechnology, Australia

14:00 – 14:30  Non-viral delivery of self-amplifying mRNA vaccines
Andrew Geall, Novartis, USA

14:30 – 15:00  The resident memory T-cell concept and vaccination: can we manipulate the system?
David Koelle, University of Washington, USA

15:00 – 15:15  Stretch break
Monday, September 9, 2013 (continued)

15:15 – 15:45  In vivo active delivery of antigens with dendritic cell-targeting bio-nanocapsules
Hidenori Matsuo, Nagoya University, Japan

15:45 – 16:15  Stability and bioactivity effects of raw material source and structure in vaccine
adjuvant formulations
Christopher B. Fox, Infectious Disease Research Institute, USA

16:15 – 16:45  Coffee break

Adjuvants: Formulations & Mechanisms: Session #3
Session Chair: Danny Casimiro, Merck & Co., USA

16:45 – 17:15  Rational Design and Development of New Adjuvants
Steve Reed, Infectious Disease Research Institute, USA

17:15 – 17:45  The next generation of vaccine adjuvants
Derek O’Hagan, Novartis, USA

17:45 – 18:15  Safety issues associated with vaccine administration
Neal Halsey, Institute for Vaccine Safety, Johns Hopkins Bloomberg School of Public
Health, USA

18:15 – 18:45  Formulation, Stability and Immunogenicity of Protein-Based Vaccines in Aluminum
Salt Adjuvants
S. Fernando Ausar, Sanofi Pasteur, Canada

19:00 – 19:30  Reception

19:30 – 21:00  Conference Banquet
Tuesday, September 10, 2013

08:00 – 09:00 Breakfast

Novel Stabilization Approaches & Formulations: Session #4
Session Chair: Robert Evans, Merck & Co., USA

09:00 – 09:15 Opening remarks

09:15 – 09:45 Vaccines as Well-Defined Pharmaceutical Dosage Forms: Formulation and Analytical Challenges and Opportunities
David Volkin, University of Kansas, USA

09:45 – 10:15 The effect of protein oxidation on the formation of higher order structures and loss of potency for a recombinant influenza hemagglutinin
Kathy Holtz, Protein Sciences Corporation, USA

10:15 – 10:45 High-throughput screening of microneedle formulations for influenza vaccine stabilization
Matt Mistilis, Georgia Institute of Technology, USA

10:45 – 11:15 Coffee break

11:15 – 11:45 Conformational stabilization of vaccine immunogens by targeted di-tyr crosslinking
Christopher Marshall, Avatar Biotechnologies, USA

11:45 – 12:15 Silk stabilization of vaccines: a new route to improving access
Kathryn Kosuda, Vaxess Technologies, Inc., USA

12:15 – 12:45 Measles Vaccination Using A Microneedle Patch in Non-Human Primates
Marcus Collins, Center for Disease Control, USA

12:45 – 14:15 Lunch

Innovations & New Technologies for Reaching the Developing World: Session #5
Session Chair: Davinder Gil, Hilleman Laboratories, India

14:15 – 14:45 A Framework to Assess Formulation and Administration Technologies for Vaccine Product Development
Penny Heaton, Bill & Melinda Gates Foundation, USA

14:45 – 15:15 Developing Delivery Devices with Desirable Product Attributes for Global Health
Darin Zehrung, PATH, USA

15:15 – 15:45 Optimization of Rotavirus Vaccine for Developing World
Sachin Kale, Hilleman Laboratories, India

15:45 – 16:15 Thermostable, needle-free influenza vaccines formulated in Bioneedles
Gideon Kersten, Institute for Translational Vaccinology, Netherlands

16:15 – 16:30 Closing remarks