

*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](http://www.engconfintl.org) – [info@engconfintl.org](mailto: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](mailto:qualitybosha@hyatt.com)**

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### **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 | <b>Keynote Speaker: Vaccines of the Future: Innovating Beyond the Antigen<br/>Dr. Julie Gerberding, President, Merck Vaccines</b> |
| 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
- 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 – 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
- 15:15 – 15:45            **In vivo active delivery of antigens with dendritic cell-targeting bio-nanocapsules**  
Hidenori Matsuo, Nagoya University, Japan

**Monday, September 9, 2013 (continued)**

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