

SKIN VACCINATION SUMMIT 2015

2-4 September 2015, University of Lausanne/CHUV, Lausanne, Switzerland

FINAL ORAL PROGRAMME & POSTER PROGRAMME

SVS 2015

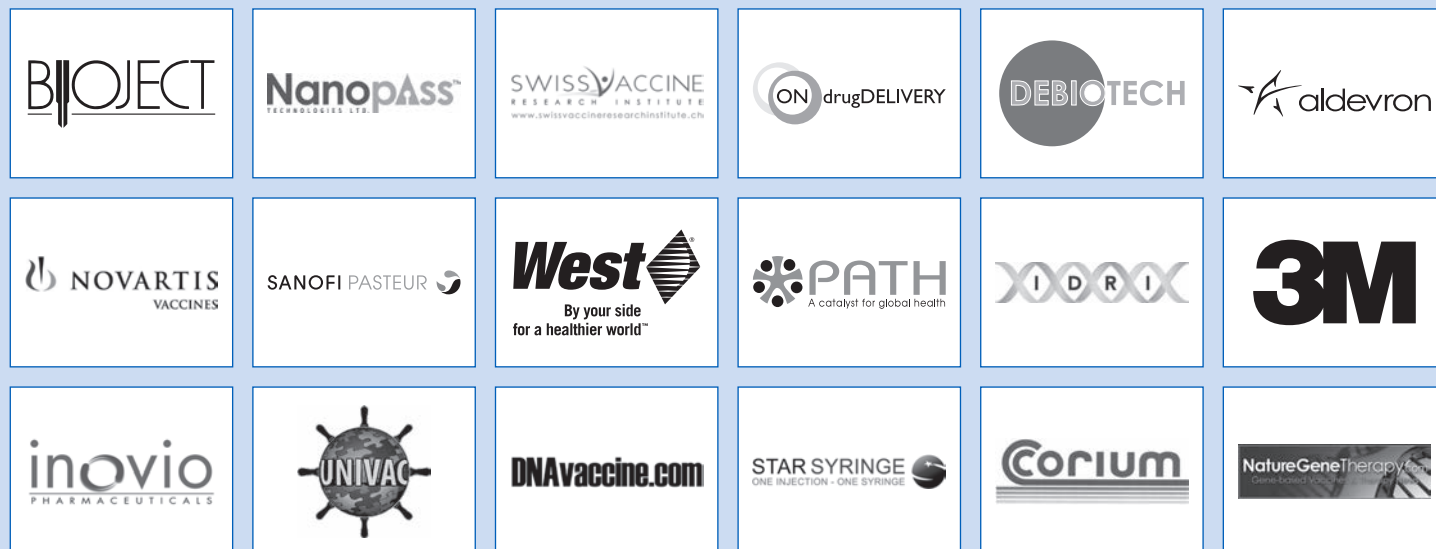
SCIENTIFIC ADVISORY PANEL

SVS 2015 Co-Chairs:

Bruce G. Weniger (*Chiang Mai University, Chiang Mai, Thailand*)
Giuseppe Pantaleo (*Swiss Vaccine Research Institute, Lausanne, Switzerland*)

Mark Kendall (*University of Queensland, Australia*)
Richard Compans (*Emory University, Atlanta, Georgia, USA*)
Joke Bouwstra (*Leiden/Amsterdam Center for Drug Research, The Netherlands*)
Behazine Combadiere (*INSERM, Paris, France*)
Niranjan Y. Sardesai (*INOVIO Inc., Plymouth Meeting, Pennsylvania, USA*)
Richard R. Stout (*Bioject Inc., Tualatin, Oregon, USA*)
Mark Tomai (*3M Drug Delivery Systems, St. Paul, Minnesota, USA*)
Darin Zehrung (*PATH, Seattle, Washington, USA*)
Yotam Levin (*NanoPass Technologies Ltd., Nes Ziona, Israel*)
Nathalie Garcon (*Bioaster, Lyon, France*)

Mark Prausnitz (*Georgia Institute of Technology, Atlanta, USA*)
Ryan Donnelly (*Queen's University Belfast, Northern Ireland, UK*)
Terry L. Bowersock (*Zoetis Inc., Kalamazoo, Michigan, USA*)
Michael Royals (*Independent Consultant, Denver, Colorado, USA*)
John Clements (*Tulane University, New Orleans, Louisiana, USA*)
Derek O'Hagan (*Novartis Vaccines & Diagnostics, Cambridge, Massachusetts, USA*)
Steve Reed (*IDRI, Seattle, Washington, USA*)
Geert van den Bossche (*UNIVAC LLC, Seattle, Washington, USA*)
Marcel B.M. Teunissen (*University of Amsterdam, Amsterdam, The Netherlands*)
Izzy Tsals (*SID Technologies LLC, Newtown, Pennsylvania, USA*)
Laurent-Dominique Piveteau (*Debiotech SA, Lausanne, Switzerland*)
Bobby Singh (*Corium International, Menlo Park, California, USA*)
Anne Moore (*University College Cork, Cork, Ireland*)
Nils Rettby (*CHUV, Lausanne, Switzerland*)



08.30-10.30

Registration/Coffee/Poster-Setup

SESSION 1: OPENING PLENARY SESSION

Moderator: Bruce Weniger (*Chiang Mai University, Chiang Mai, Thailand*)

'Introductory remarks on the event of the 3rd SKIN VACCINATION SUMMIT'

Bruce Weniger (*Chiang Mai University, Chiang Mai, Thailand*)

10.30-11.00

'From idea to impact: The myriad challenges of technology development for global public health'

Darin Zehrung (*PATH, Seattle, Washington, USA*)

11.00-11.30

'From muscles to skin: More variables to consider when vaccinating?'

Nathalie Garcon (*BIOASTER, Lyon, France*)

11.30-12.00

'Innate lymphoid cells: New players on the block regulating skin immune responses'

Marcel B.M. Teunissen (*University of Amsterdam, The Netherlands*)

12.00-12.30

'Omics analysis of skin vaccination'

Behazine Combadiere (*Universite Pierre and Marie Curie, Paris, France*)

12.30-14.00

Lunch Break & Posters

SESSION 2: DELIVERY TECHNOLOGIES

Moderators: Derek O'Hagan (*Novartis Vaccines, Cambridge, Massachusetts, USA*) and Nathalie Garcon (*BIOASTER, Lyon, France*)

14.00-14.30

'Delivering DNA to the skin for intra-epidermal vaccination and immunotherapy'

James Birchall (*University of Cardiff, Cardiff, Wales, UK*)

14.30-14.50

'The use of dissolving polymeric MN arrays in the targeted delivery of nanoencapsulated antigen to skin dendritic cells'

M.T.C. McCrudden, M. Zaric, A. Kissenpennig and R.F. Donnelly (*Queen's University of Belfast, Belfast, Northern Ireland, UK*)

14.50-15.10

'Exploring the mechanisms behind intradermal electroporation'

Katherine Schultheis, Laurent Humeau and Niranjana Sardesai (*INOVIO Inc., Plymouth Meeting, Pennsylvania, USA*)

15.10-15.30

'Cutaneous immunogen delivery via a novel laser microporation platform'

Yoan Machado¹, Melissa Mayr¹, Veronika Höpflinger¹, Doris Bach¹, Michael Hessenberger¹, Sophie Kitzmueller¹, Elmira Lechat², Josef Thalhammer¹, Sandra Scheibelhofer¹ and Richard Weiss¹

(1: Department of Molecular Biology, Division of Allergy and Immunology, University of Salzburg, Austria / 2: Pantec Biosolutions AG, Ruggell, Liechtenstein)

15.30-16.00

Tea Break & Posters

SESSION 3: IMMUNE RESPONSES/CLINICAL TRIALS 1

Moderators: Richard W. Compans (*Emory University, Atlanta, Georgia, USA*) and John Clements (*Tulane University, New Orleans, Louisiana, USA*)

16.00-16.30

'Mucosal immune responses following parenteral immunization: Re-evaluating the paradigm for induction of mucosal immunity'

John Clements (*Tulane University, New Orleans, Louisiana, USA*)

16.30-17.00

'A single dose of cutaneously delivered unadjuvanted tetanus toxoid confers complete protection in pregnant mice and their infants'

Ioanna Skountzou, E. Stein Esser, Andrey A. Romanyuk, Elena V. Vassilieva, Mark R. Prausnitz and Richard W. Compans (*Emory University / Georgia Institute of Technology, Atlanta, Georgia, USA*)

17.00-17.20

'Mucosal immunity induced by skin based vaccination with ImmuPatch dissolvable microneedle patches in mice'

O. Flynn, E. Allen, K. Dillane, A. Crean and A. Moore (*University College Cork, Ireland*) and Elizabeth Norton (*Tulane University, New Orleans, Louisiana, USA*)

17.20-17.40

'A randomized clinical trial in adults and newborns in South Africa to compare the safety and immunogenicity of bacilli Calmette-Guerin (BCG) vaccine administration via a disposable-syringe jet injector to conventional technique with needle and syringe'

Hennie D. Geldenhuys, Helen Mearns, Jennifer Foster, Eugene Saxon, Ben Kagina, Laura Saganic, Courtney Jarrahan, Michele D. Tameris, One B. Dintwe, Michele Van Rooyen, Kany-Kany A. Luabeya, Gregory Hussey, Thomas J. Scriba, Mark Hatherill and Darin Zehrung (*SATVI, University of Cape Town, Cape Town, South Africa*)

17.40-18.00

'The safety and immunogenicity of inactivated poliovirus vaccine when given concomitantly with a measles and rubella combined vaccine and when given by different administration routes: A phase 4, randomised, non-inferiority trial'

E. Clarke, Y. Saidu, A. Bashorun, A. Umesi, M. Hydera-Badjie, J. Adetifa, M. Ngozi, I. Adigweme, P. Cham, E. Roberts, J. Mueller, V. Thomas-Njie, D. Jeffries and B. Kampmann (*MRC Unit, The Gambia, PO Box 273, Banjul, The Gambia*)

18.00-18.20

'Investigating practical and acceptability issues related to needle-free jet injection devices for the delivery of IPV: A nested study within a randomised trial in The Gambia'

J. Bibby, C. Jarrahan, M. Royals, B. Kampmann and E. Clarke (*MRC Unit, The Gambia, PO Box 273, Banjul, The Gambia*)

18.20-19.20

SVS 2015 Drinks Reception & Poster Session

SESSION 4: IMMUNIZATION

Moderators: Darin Zehrung (*PATH, Seattle, Washington, USA*) and Marcel B.M. Tuenissen (*University of Amsterdam, Amsterdam, The Netherlands*)

09.00-09.30

'Enhancing immune responses to influenza vaccines in high risk groups by skin vaccination'

Richard W. Compans, Dimitrios G. Koutsonanos, E. Stein Esser, Sean R. McMaster, Priya Kalluri, Jeong-Woo Lee, Mark R. Prausnitz, Ioanna Skountzou, Timothy L. Denning and Jacob E. Kohlmeier (*Emory University, Atlanta, Georgia, USA*)

09.30-10.00

'Assessing the economic and epidemiological impacts of a microneedle patch influenza vaccine'

Courtney Jarrahan², Mercy Mvundura², Bruce Y. Lee¹, Sarah M. Bartsch¹, Kristina M. Zapf¹, Kathleen Marinan¹, Angela R. Wateska¹, Bill Snyder², Savitha Swaminathan², Erica Jacoby², James J. Norman³, Mark R. Prausnitz³ and Darin Zehrung² (1: *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA* / 2: *PATH, Seattle, Washington, USA* / 3: *Georgia Institute of Technology, Atlanta, Georgia, USA*)

10.00-10.20

'Transcutaneous immunization by bandaid vaccine prevents experimental otitis media in an adenovirus- nontypeable *Haemophilus influenzae* superinfection model'

Laura A. Novotny, John D. Clements and Lauren O. Bakaletz (*Nationwide Children's Hospital and The Ohio State University College of Medicine, Columbus, Ohio, USA* & *Tulane University School of Medicine, New Orleans, Louisiana, USA*)

10.20-10.40

'Immunization with ARA H-LAMP-Vax peanut vaccine protects and blocks IgE mediated-naphylaxis in a peanut allergic murine model'

Teri Heiland, Mike Connolly, Anthony Marketon and Yan Su (*Immunomic Therapeutics Inc., Rockville, Maryland, USA*)

10.40-11.00

'NanoPass' clinical experience with global health vaccines'

Yotam Levin and Efrat Kochba (*NanoPass Technologies, Nes Ziona, Israel*)

11.00-11.30

Coffee Break & Posters

SESSION 5: MICRONEEDLES 1

Moderators: Mark Prausnitz (*Georgia Institute of Technology, Atlanta, Georgia, USA*) and Behazine Combadiere (*INSERM, Paris, France*)

11.30-12.00

'Inactivated polio vaccine delivered into the skin results in potent immune response'

Joke Bouwstra (*Leiden/Amsterdam Center for Drug Research, Leiden, The Netherlands*)

12.00-12.20

'Solid and hollow microneedle delivery of vaccines for enhanced effectiveness'

Kirsty Gapp and Mark Tomai (*3M Company, St. Paul, Minnesota, USA*)

12.20-12.40

'Hollow microneedles for fast bolus injections'

Laurent-Dominique Piveteau (*Debiotech SA, Lausanne, Switzerland*)

12.40-13.00

'Development of hyaluronan-based IgG-loaded dissolving microneedles for intradermal protein delivery'

Juha Monkare (*LACDR, Leiden University, Leiden, The Netherlands*)

13.00-14.00

Lunch Break & Posters

SESSION 6: PATCHES

Moderators: Joke Bouwstra (*Leiden/Amsterdam Center for Drug Research, Leiden, The Netherlands*) and Bobby Singh (*Corium International, Menlo Park, California, USA*)

14.00-14.30

'Translation of microneedle patch vaccination into clinical trials'

Mark R. Prausnitz (*Georgia Institute of Technology, Atlanta, Georgia, USA*)

14.30-15.00

'Immunogenicity of adjuvanted and virus vectored vaccines in ImmuPatch dissolvable microneedle patches'

Anne Moore (*University College Cork, Ireland*)

15.00-15.20

'Progress towards the development of an inactivated rotavirus vaccine for global immunization using a skin patch'

Baoming Jiang (*Centers for Diseases Control, Atlanta, Georgia, USA*)

15.20-15.40

'Stabilization of influenza vaccine in microneedle patches for room-temperature storage'

M.J. Mistilis, A.S. Bommarius and M.R. Prausnitz (*Georgia Institute of Technology, Atlanta, Georgia, USA*)

15.40-15.55

'The immunogenicity of adjuvant, QS-21, co-delivered with influenza vaccine, using a skin patch (Nanopatch)'

Hwee-Ing Ng, Germain J.P. Fernando, Alexandra C.I. Depelsenaire and Mark A.F. Kendall (*University of Queensland, Brisbane, Queensland, Australia*)

15.55-16.10

Tea Break & Posters

SESSION 7: MICRONEEDLES 2

Moderator: Izzy Tsals (*SID Technologies LLC, Newtown, Pennsylvania, USA*)

16.10-16.40

'Industrial manufacturing of microneedles for vaccine delivery'

Heiko Spilgies (*LTS Lohmann Therapie-Systeme AG, Andernach, Germany*)

16.40-17.00

'Simplifying vaccine administration with transdermal MicroCor®'

Bobby Singh (*Corium International, Menlo Park, California, USA*)

17.00-17.20

'Intradermal vaccination using the novel microneedle device MicronJet600: Past, present and future'

Yotam Levin and Afrat Kochba (*NanoPass Technologies, Nes Ziona, Israel*)

17.20-17.40

'A new technology for DNA vaccination: Cell-penetrating peptide-mediated gene delivery via dissolving microneedles'

Helen O. McCarthy, Ahlam A. Ali, Joanne McCaffrey, John W. McBride, Adrien Kissenpfennig and Ryan F. Donnelly (*Queen's University Belfast, Belfast, Northern Ireland, UK*)

17.40-18.00

'Measles and rubella vaccination using a microneedle patch'

Jessica C. Joyce¹, Marcus L. Collins², Paul A. Rota² and Mark R. Prausnitz¹ (1: *Georgia Institute of Technology, Atlanta, Georgia, USA* / 2: *Centers for Disease Control and Prevention, Atlanta, Georgia, USA*)

18.00-18.20

'Considerations in the sterile manufacture of microneedle vaccines: Using ovalbumin as a model antigen'

Aaron J. Courtenay¹, M.T.C. McCrudden¹, A.Z. Alkilani² and R.F. Donnelly¹ (1: *Queen's University Belfast, Northern Ireland* / 2: *Zarqa University, Zarqa, Jordan*)

Free Evening for Delegates

**SESSION 8:
INTRADERMAL DELIVERY**

Moderator: Yotam Levin (*NanoPass Technologies, Nes Ziona, Israel*)

09.00-09.30

'Innovative methodologies for evaluating intradermal delivery devices'

Gene Saxon and Courtney Jarrahan (*PATH, Seattle, Washington, USA*)

09.30-09.50

'Immune responses after fractional doses of inactivated poliovirus vaccine using newly developed intradermal jet injectors: A randomized controlled trial in Cuba'

Ondrej Mach (*WHO, Geneva, Switzerland*)

09.50-10.10

'Protective efficacy of an enterotoxigenic *E. coli* fimbrial tip adhesin vaccine given with LTR192G by intradermal vaccination against experimental challenge with CFA/I-ETEC in adult volunteers'

Ramiro Gutierrez², Clayton Harro¹, Kawsar Talaat¹, Chad Porter², Mark Riddle², Milton Maciel², Steven Poole², Renee Laird² and Stephen Savarino²

(1: *Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland, USA* / 2: *Naval Medical Research Center, Silver Spring, Maryland, USA*)

10.10-10.30

'Intradermal rabies immunization using DebioJect: A comparative study'

Nils Rettby (*CHUV, Lausanne, Switzerland*)

10.30-10.50

'Usability evaluation of intradermal adapters (IDA)'

Izzy Tsals (*SID Technologies LLC, Newtown, Pennsylvania, USA*) and

Glen Zimmermann (*West Pharmaceutical Services, Inc., Exton, Pennsylvania, USA*)

10.50-11.30

Coffee Break & Posters

**SESSION 9:
LATEBREAKER PRESENTATIONS**

Moderator: Bruce Weniger (*Chiang Mai University, Chiang Mai, Thailand*)

11.30-11.50

'Optimizing vaccine delivery by bridging the gap between laboratory bench and market'

Ivo Ploemen (*Intravacc, Bilthoven, Utrecht, The Netherlands*)

11.50-12.05

'Systems Vaccinology: Integrative transcriptomics analysis of early host response with enhanced immunogenicity to a skin patch (Nanopatch) delivered influenza vaccine'

Hwee-Ing Ng, Germain J.P. Fernando, Ian H. Frazer and Mark A.F. Kendall (*University of Queensland, Brisbane, Queensland, Australia*)

12.05-12.20

'High frequency ultrasound to assess skin thickness in healthy adults and to determine accuracy of penetration depth of VAX-ID™'

Timothi J.S. Van Mulder, V. Vankerhoven, M. de Koeijer, D. Willems, M. Demolder, G. De Meyer and K.C.L. Beyers (*Novosanis NV, Wijnegem, Belgium*)

12.25-12.45

'Evaluation of candidate dengue virus subunit vaccines delivered to the skin by the Nanopatch in a lethal challenge model'

David A. Muller, Alexandra Depelseñaire, Stacey Cheung, Nicholas Goh, Daniel Watterson, Paul R. Young and Mark A.F. Kendall

(*University of Queensland, Brisbane, Queensland, Australia*)

12.45-13.05

'A saline study in healthy adult volunteers'

Paul Mallins (*Star Syringe Ltd, Haywards Heath, West Sussex, UK*)

13.05

Lunch Break & Poster Breakdown & Departure

POSTER SESSION

Poster 101

'Better understanding early immune response processes after intradermal vaccination in non-human primates'

Pierre Rosenbaum (*CEA, Fontenay-Aux-Roses, France*)

Poster 102

'Self-adjuvanted RNative® vaccine induces innate immune response at the site of injection that leads to a potent adaptive immunity in both mice and humans'

Fatma Doener *et al.*

(*CureVac GmbH, Paul-Ehrlich-Str. 15, 72076 Tübingen, Germany*)

Poster 103

'Manufacture and needle-free, intradermal delivery of antibiotic-free NTC RNA-OUT LAMP plasmids'

Teri L. Heiland *et al.* (*Immunomic Therapeutics Inc., Rockville, Maryland, USA*)

Poster 104

'Development of a DNA-launched VLP vaccine system for protection against filoviruses'

Charles J. Shoemaker *et al.* (*United States Army Research Institute of Infectious Diseases, Fort Detrick, Maryland, USA*)

Poster 105

'Design, optimisation and characterisation of microneedle arrays laden with poly-D,L-lactide-co-glycolide (PLGA) nanoparticles for intradermal vaccination'

Aoife M. Rodgers *et al.* (*Queen's University Belfast, Belfast, Northern Ireland, UK*)

Poster 106

'A new technology for DNA vaccination: Cell-penetrating peptide-mediated gene delivery via dissolving microneedles'

Ahlam A. Ali *et al.* (*Queen's University, Belfast, Northern Ireland, UK*)

Poster 107

'Influence of a highly-concentrated dry vaccine powder on the stability of different oily mixtures containing squalene, α -tocopherol and polysorbate 80'

Laura Engelke *et al.* (*LMU Munich, Munich, Germany*)

Poster 108

'Needle-free intradermal delivery of a polyvalent influenza-A DNA vaccine'

Jim Williams *et al.* (*Nature Technology Corporation, Lincoln, Nebraska, USA*)

Poster 109

'Development of a novel DNA vaccine delivery system for prostate cancer'

Grace Cole *et al.* (*Queen's University Belfast, Belfast, Northern Ireland, UK*)

* This final programme is correct at the time of printing. However the organizers reserve the right to make any alterations that may be required in the interests and integrity of the final conference programme.