

TUESDAY, MAY 29, 2018

18:00 **Reception** at the Museum of Anthropology, UBC, 6393 NW Marine Drive

*All technical sessions will take place in the **Nest (Level 2)**.*

WEDNESDAY, MAY 30, 2018

7:30 **Breakfast**

8:00 **Welcome**

Session: Two Years in Review

Session Chair: Boris Stoeber, The University of British Columbia, Canada

8:15 **Invited:** FROM LONDON TO VANCOUVER: 4700 MILES AND 735 DAYS
James Birchall, Cardiff University, UK

Session: Global Challenges

Session Chair: Mikolaj Milewski, Merck & Co. Inc., U.S.A.

8:40 **Keynote:** PERSPECTIVES ON MICROARRAY PATCH PRODUCT DEVELOPMENT FOR MEASLES CONTAINING VACCINES
Birgitte Giersing, World Health Organization, Switzerland

9:10 **Invited:** PRACTICALLY IDEAL VACCINE DELIVERY SYSTEMS - REMOVING THE HURDLES TO IMMUNIZATION
Mark Papania, Centers for Disease Control and Prevention, U.S.A.

9:30 **Coffee break** and Exhibitor viewing

10:00 **Invited:** MICROARRAY PATCH DEVELOPMENT AND POTENTIAL IMPACT ON GLOBAL HEALTH
Shanda Boyle, Gates Foundation, U.S.A.

10:20 **Invited:** PATH CENTER OF EXCELLENCE FOR MICROARRAY PATCH TECHNOLOGY
Darin Zehrung, PATH, U.S.A.

10:40 **Session Panel** - Birgitte Giersing (WHO), Mark Papania (CDC), Shanda Boyle (Gates Foundation), Darin Zehrung (PATH)
Moderator: Mikolaj Milewski, Merck & Co. Inc., U.S.A.

Session: Vaccines and Immunotherapy – Part 1

Session Chair: James Birchall, Cardiff University, UK

11:10 **Invited:** THE ADJUVANT GLA-AF ENHANCES HUMAN FLU VACCINE RESPONSES AFTER INTRADERMAL INJECTION USING THE NANOPASS MICRONJET
Darrick Carter, Infectious Disease Research Institute, U.S.A.

11:30 **Selected Abstract:** INTRADERMAL VACCINATION WITH HOLLOW MICRONEEDLES: A COMPARATIVE STUDY OF PROTEIN ANTIGEN AND ADJUVANT ENCAPSULATED NANOPARTICLES
Guangsheng Du, Leiden University, the Netherlands

11:45 **Selected Abstract:** NEW TRENDS IN ID VACCINATION: FROM PROPHYLAXIS TO IMMUNOTHERAPY
Yotam Levin, NanoPass Technologies, Israel

12:00 **Lunch** and Exhibitor viewing

Session: Vaccines and Immunotherapy – Part 2

Session Chair: Yotam Levin, NanoPass Technologies, Israel

13:00 **Selected Abstract:** SMART VACCINE DELIVERY BASED ON MICRONEEDLE ARRAYS DECORATED WITH ULTRA-pH-RESPONSIVE COPOLYMERS FOR CANCER IMMUNOTHERAPY
Huu Thuy Trang Duong, Sungkyunkwan University, South Korea

13:15 **Selected Abstract:** SKIN VACCINATION AGAINST POLIOMYELITIS IN THE RHESUS MACAQUE USING A DISSOLVING MICRONEEDLE PATCH
Jeong Woo Lee, Georgia Institute of Technology, U.S.A.

13:30 **Selected Abstract:** MICRONEEDLE DELIVERY SYSTEM FOR ANTIGEN-SPECIFIC IMMUNOTHERAPY IN TYPE 1 DIABETES
Farah Arikat, Cardiff University, UK

13:45 **Selected Abstract:** SUSTAINED INTRADERMAL DELIVERY OF VACCINES VIA SILK MICRONEEDLES FOR ENHANCED IMMUNE RESPONSES
Kathryn M. Kosuda, Vaxess Technologies, U.S.A.

14:00 **Poster Flash Presentations** (Poster session 1)
Moderator: Mehrsa Raeiszadeh, Microdermics Inc., Canada

14:20	<p>Poster Session 1 and Exhibitor viewing</p> <p>Posters with odd numbers will be attended</p>
<p>Session: Diagnostics and Wearables</p> <p>Session Chair: Conor O'Mahony, Tyndall National Institute, Ireland</p>	
16:20	<p>Invited: TRANSDERMAL MICRONEEDLE SENSORS TO MONITOR HEALTH AND HUMAN PERFORMANCE</p> <p>Ronen Polsky, Sandia National Laboratories, U.S.A.</p>
16:40	<p>Invited: SKIN PUNCTURE AND BLOOD SAMPLING INSPIRED BY MOSQUITO USING A MICRONEEDLE INTEGRATED WITH BUCKLING PREVENTION JIG</p> <p>Seiji Aoyagi, Kansai University, Japan</p>
17:00	<p>Invited: SAMPLING INTERSTITIAL FLUID THROUGH SKIN USING A MICRONEEDLE PATCH</p> <p>Pradnya Samant, Georgia Institute of Technology, U.S.A. and Biolinq Inc., U.S.A.</p>
17:20	<p>Selected Abstract: MICRONEEDLE AND SENSING MICROPROBE INTEGRATED SYSTEM FOR MINIMALLY INVASIVE CONTINUOUS GLUCOSE MONITORING</p> <p>Federico Ribet, KTH Royal Institute of Technology, Sweden</p>
17:35	<p>Selected Abstract: DISPOSABLE MICRONEEDLE PATCH FOR COLORIMETRIC GLUCOSE BIOSENSING</p> <p>Wen-Lin Hsu, National Sun Yat-sen University, Taiwan</p>
17:50	<p>Selected Abstract: RAPID EXTRACTION OF INTERSTITIAL FLUID USING SHARP HOLLOW SILICON MICRONEEDLES</p> <p>Pelle Rangsten, Ascilion AB, Sweden</p>
18:05	<p>Networking reception at the Gallery 2.0, Nest</p>

THURSDAY, MAY 31, 2018

8:30 **Breakfast**

9:00 Announcements

Session: Skin Biology

Session Chair: Sion Coulman, Cardiff University, UK

9:05 **Keynote:** ANIMAL/HUMAN SKIN BIOLOGY AND THE EVOLUTION/MATURATION OF MICRONEEDLE DRUG DEVELOPMENT

Howard Maibach, University of California San Francisco, U.S.A.

Session: Cosmetics, Migraine & Ocular Delivery

Session Chair: Beom-Joon Kim, University of Tokyo, Japan

9:35 **Invited:** MICRONEEDLES FOR COSMETICS IN KOREA

Jung-Hwan Park, Gachon University, South Korea

9:55 **Invited:** ACUTE TREATMENT OF MIGRAINE USING ADAM

Mahmoud Ameri, Zosano Pharma, U.S.A.

10:15 **Invited:** A SUPRACHOROIDAL INJECTION APPROACH TO EYE DISEASE – FROM BENCH TO CLINIC

Glenn Noronha, Clearside Biomedical, U.S.A.

10:35 **Selected Abstract:** DETACHABLE MICRONEEDLE PEN FOR SUSTAINED OCULAR DRUG DELIVERY AGAINST ACANTHAMOEBA KERATITIS

KangJu Lee, Yonsei University, South Korea

10:50 **Coffee break** and Exhibitor viewing

Session: Technology – Fabrication and Skin Biomechanics

Session Chair: Jung-Hwan Park, Gachon University, South Korea

11:20 **Invited:** MICRONEEDLES FABRICATED BY HEAT IMPRINTING FOR NOVEL APPLICATION

Nobuhiro Kato, Kindai University, Japan

11:40 **Selected Abstract:** NANOPOROUS MICRONEEDLE ARRAYS FOR THE TRANSDERMAL DELIVERY OF SMALL MOLECULES AND PEPTIDES

Koen van der Maaden, MyLife Technologies B.V., Netherlands

11:55	<p>Selected Abstract: POLYVINYL ALCOHOL-BASED HYDROGEL-FORMING MICRONEEDLES FOR EFFICIENT AND CONTROLLED TRANSDERMAL DRUG DELIVERY</p> <p>Ismail Tekko, Queen's University Belfast, UK</p>
12:10	<p>Selected Abstract: A NOVEL SELF-ADMINISTERED MICRONEEDLE PATCH PLATFORM THAT ACHIEVES REPEATABLE FULL- LENGTH MICRONEEDLE PENETRATION AND ROBUST ANCHORAGE IN SKIN</p> <p>Nicky Bertollo, University College Dublin, Ireland</p>
12:25	<p>Selected Abstract: INTRADERMAL INJECTIONS THROUGH HOLLOW MICRONEEDLES: FLUID ABSORPTION BY SKIN TISSUE</p> <p>Pranav Shrestha, The University of British Columbia, Canada</p>
12:40	<p>Poster Flash Presentations (Poster session 2)</p> <p>Moderator: Mehrsa Raeiszadeh, Microdermics Inc., Canada</p>
13:00	<p>Lunch and Exhibitor viewing</p>
13:30	<p>Poster Session 2 and Exhibitor viewing</p> <p>Posters with even numbers will be attended</p>
<p style="text-align: center;">Session: Commercialization and Regulatory Adoption</p> <p style="text-align: center;">Session Chair: Mark Prausnitz, Georgia Institute of Technology, U.S.A.</p>	
15:25	<p>Invited: PRODUCT DEVELOPMENT CONSIDERATIONS FOR MICRONEEDLE DRUG PRODUCTS</p> <p>Caroline Strasinger, Food and Drug Administration, U.S.A.</p>
15:45	<p>Selected Abstract: DEVELOPMENT OF COMMERCIALIZABLE MICRONEEDLE PRODUCTS</p> <p>Lisa Dick, 3M Drug Delivery Systems, U.S.A.</p>
16:00	<p>Selected Abstract: FUJIFILM'S MICRONEEDLE ARRAY TECHNOLOGY</p> <p>Takayoshi Oyamada, FUJIFILM Corporation, Japan</p>
16:15	<p>Selected Abstract: IMMEDIATE SEPARATION OF MICRONEEDLE TIPS DURING SKIN INSERTION FOR VACCINATION</p> <p>Seong-O Choi, QuadMedicine, Inc., South Korea</p>

16:30	Session Panel – Caroline Strasinger (FDA), Takayoshi Oyamada (Fujifilm), Jungdong Kim (Raphas) Moderator: Mark Prausnitz, Georgia Institute of Technology, U.S.A.
17:00	End of sessions for Day 2
17:30	Bus boarding
17:45	Bus ride to False Creek, followed by boat ride with dinner on the "Magic Spirit" (boarding at 18:30, sailing 19:00 pm – 22:00, back at 22:45)

FRIDAY, JUNE 1, 2018

8:30 **Breakfast**

9:00 Announcements

Session: Therapeutics & Oncology

Session Chair: Niclas Roxhed, KTH Royal Institute of Technology, Sweden

9:05 **Invited:** PERI-TUMOR ADMINISTRATION OF 5-FLUOROURACIL SOL-GEL USING A HOLLOW MICRONEEDLE FOR TREATMENT OF GASTRIC CANCER

Jung-Ho Park, Sungkyunkwan University, South Korea

9:25 **Invited:** MANUFACTURING AND PRECLINICAL ASSESSMENT OF A THERAPEUTIC PEPTIDE DELIVERED WITH A SOLID MICROSTRUCTURED TRANSDERMAL SYSTEM

Mikolaj Milewski, Merck & Co. Inc., U.S.A. and Lisa Dick, 3M Drug Delivery Systems, U.S.A.

9:45 **Selected Abstract:** EFFICACY OF A BLEOMYCIN MICRONEEDLE PATCH FOR THE TREATMENT OF WARTS

Joo Young Roh, Gachon University, South Korea

10:00 **Selected Abstract:** ENHANCED ABSORPTION RATE OF BIOLOGICS USING INTRADERMAL DELIVERY DEVICE

Mehrsa Raeiszadeh, Microdermics Inc., Canada

10:15 **Selected Abstract:** TRANSDERMAL DELIVERY AND STABILIZATION OF PEPTIDE A USING MICROCOR[®] TRANSDERMAL DELIVERY SYSTEM

Jingtao Zhang, Merck & Co. Inc. and Corium International Inc., U.S.A.

10:30 **Coffee break** and Exhibitor viewing

Session Panel: Microneedles – Needs and Opportunities

Moderator: Caroline Strasinger, Food and Drug Administration, U.S.A.

11:00 **Session Panel** - Mikolaj Milewski (Merck & Co. Inc.), Paul Giffen (GSK), Alex Lyness (West Pharmaceutical Services Inc.)

11:30 **Awards and closing remarks**

11:45 **End of meeting**