CONFERENCE REVIEW:
2ND INTERNATIONAL CONFERENCE ON MICRONEEDLES (MICRONEEDLES 2012)

Following the very successful inaugural meeting at Georgia Institute of Technology, Atlanta, GA, US, in May 2010, it was clear that demand existed for a sustained conference series dedicated solely to microneedle technologies, and so the 2nd International Conference on Microneedles (Microneedles 2012) was held in cork, Ireland, May 13-15, 2012. the event was chaired by Dr conor o’Malony of the tyndall National Institute at University College Cork.

A short course on Microneedle Technology on Sunday afternoon was organised and run by Dr James Birchall (Cardiff University, Cardiff, Wales) and Prof Mark Prausnitz (Georgia Institute of Technology). the course, which included aspects of microneedle fabrication, characterisation and commercial development, was intended to provide an introduction to those new to the microneedle field, and was attended by more than 80 delegates.

the conference proper was increased to two full days to cater for increased demand, and was run in single-session format including poster and exhibitor space. In total, 186 delegates from 26 countries were represented at the event, of whom 53 registered under the student/Postdoc category. reflecting the significant industrial importance of microneedle technology, 79 delegates from 60 companies were also present, and this diverse mix of new and established scientists from both industry and academia led to some very stimulating discussions.

Almost 80 technical contributions were presented in a variety of oral and poster formats, including 11 invited and keynote presentations, supported by an extended poster session and exhibition.

The conference kicked off on Monday morning with a welcome from Mr sean sherlock, TD, Irish Minister of State. Following the formalities, the technical programme opened with a session entitled “Design and technology I – solid and hollow microneedles”, which included a keynote presentation by Prof Prausnitz on the evaluation of microneedles on human subjects. the second session of the day was entitled “Design and technology II – polymer and biodegradable microneedles”. invited speakers for this session were Dr Kris Hansen from 3M Drug Delivery Systems in the US, who outlined progress on 3M’s polymer-based microneedle technologies, and prof Jung-Hwan Park from Gachon University (Seongnam, South Korea), who described hydrogel swelling-mediated separation of biodegradable polymer microneedles separation in skin.

The third session discussed updates on coatings and formulations. Highlights were a keynote presentation on the use of the Nanopatch vaccination concept by prof Mark kendall of the University of Queensland (St Lucia, Queensland, Australia), and an invited talk from Dr Ron Pettis of BD Technologies (Franklin Lakes, NJ, US) on lymphatic targeting using microneedles. Session Four was based around the rapid-fire “flash” style, during which ten poster contributors were each given the opportunity to present a key highlight of their work in a strictly limited five-minute presentation. this was followed by a lively poster session, at which 45 posters were presented on all aspects of microneedle technologies.

During the conference dinner, best paper award winners were:
- Thakur Singh et al, (Queen’s University Belfast, UK), “Characterization of pore forming hydrogels: application in transdermal delivery systems”
- Rosalind Chong et al, (Welsh School of Pharmacy at Cardiff University, Wales, UK), “Microneedle delivery of siRNA to skin: in vitro and in vivo proof of concept”
- Mee-ree Han et al, (Gachon University, Republic of Korea), “Dissolving microneedles containing minoxidil for treatment of alopecia”.

Vaccine delivery proved to be a topic of great interest to many, and merited two full sessions. The first began on Tuesday morning with a keynote presentation from Prof Joke Bouwstra (Leiden University, Leiden, the Netherlands) on transcutaneous vaccination using polymeric nanoparticles, and also included an invited presentation of the Nanopass technology from Dr Yotam Levin. the second session featured an invited talk from Dr Kate Broderick, who discussed Inovio Pharmaceuticals (Blue Bell, PA, US), and its use of electroporation device to enhance DNA vaccine delivery to skin.

Dr John O’Dea from Crospon presented details of the spin-out Janysis (Dungar, Galway, Ireland) and its active microneedle technology during his invited talk. the final session focused on the very relevant topic of microneedle clinical translation. it included a keynote presentation from Dr Peter Daddona who described progress made by Zosano Pharma (Fremont, CA, US) towards commercialisation of its ZP-PTH osteoporosis patch, and an invited talk on the practicalities of microneedle usage by Dr Birchall.

Following the conclusion of a very successful gathering, the organisers would like to thank our Platinum Partner, Science Foundation Ireland, our Gold Partner, Zosano Pharma, and all of our sponsors, without whom an event of this quality would not have been possible. our warm and sincere thanks go also to the members of the International Steering Committee, invited speakers and exhibitors.

We now look forward to meeting old and new acquaintances at Microneedles 2014, which will take place in Baltimore, MD, US, on May 20-22, 2014. the conference will be chaired by Dr Audra Stinchcomb of the University of Maryland School of Pharmacy (Baltimore, MS, US), and will again feature sessions on all aspects of microneedle technology and applications.

the gathering promises a lively mix of academic, industrial, and regulatory delegates, and will include networking opportunities during extended poster and exhibition sessions and social activities. Later in 2013, details of sponsorship opportunities, a call for papers and delegate registration details can be found at: www.international-al-microneedles.org. we look forward to seeing you in Maryland for Microneedles 2014!


Save the Date: May 20 - 22, 2014

Microneedles 2014
Baltimore

Mark your calendar for the 3rd International Microneedles Conference, May 20 - 22, 2014, at the University of Maryland School of Pharmacy in Baltimore, Maryland.

Hosted by Audra Stinchcomb, PhD, a professor of pharmaceutical sciences at the University of Maryland School of Pharmacy and chair of Microneedles 2014.

The conference promises to be a lively mix of academic, industrial, and regulatory delegates, and will include networking opportunities during poster and exhibition sessions, as well as social activities. For details on sponsorship opportunities, calls for papers, and delegate registration, visit www.international-microneedles.org.

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