Optimmunize: Improving the beneficial effects of vaccines

Wellcome Genome Campus Conference Centre,
Hinxton, Cambridge

19 – 21 February 2020

Conference programme

**Wednesday, 19 February**

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>11:30-12:50</td>
<td>Registration with lunch</td>
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</table>
| 12:50-13:00 | Welcome and Introductions  
  Programme Committee                                                 |
| 13:00-14:30 | Session 1: Why the non-specific effects of vaccines are important  
  Chair: Nigel Curtis                                                  |
| 13:00   | Opening note  
  Nigel Curtis  
  Melbourne University, Australia                                       |
| 13.10   | Why the non-specific effects of vaccines are important  
  Peter Aaby  
  Bandim Health Project, Guinea-Bissau                                 |
| 13:30   | Off target effects: the box is finally open but the contents are still  
  confusing  
  Adam Finn  
  University of Bristol, UK                                             |
| 13:50   | Q&A & discussion                                                      |
| 14:30-15:30 | Keynote Lecture:  
  Trained immunity: a memory for innate host defense  
  Mihai Netea  
  Radboud University, The Netherlands                                  |
| 15:30-16:00 | Afternoon Tea                                                          |
| 16:00-17:30 | Session 2: Potential non-specific effects of vaccines – evidence  
  from clinical trials  
  Chair: Sabra Klein                                                   |
| 16:00   | The Melbourne Infant Study: BCG for Allergy and Infection Reduction (MIS BAIR)  
  Nigel Curtis  
  Melbourne University, Australia                                      |
16:30 Repurposing of Vaccines: What is in a name?  
Tobias Kollmann  
Telethon Kids Institute, Australia

17:00 Immune system development varies according to age, location and anemia in African children  
Danika Hill  
Babraham Institute, UK

17:15 BCG skin reactions by 2 months of age are associated with better survival in infancy: A prospective observational study  
Frederik Schaltz-Buchholzer  
Bandim Health Project, Denmark

17:30-18:00 Lightning talks

18:00-19:00 Poster Session 1 (odd numbers) with drinks reception

19:00 Dinner

Thursday, 20 February

09:00-10:45 Session 3: Effects of vaccines on immunity and the epigenome  
Chair: Mihai Netea

09:00 What have we learnt about BCG vaccination in the last 20 years? (and can we improve its efficacy?)  
Hazel Dockrell  
LSHTM, UK

09:30 Evidence for BCG-induced protection against heterologous infectious disease in Ugandan neonates: an investigator-blind randomised controlled trial.  
Sarah Prentice  
East and North Hertfordshire NHS Trust, UK

10:00 BCG and DTPw vaccination induce altered programmes of “trained” innate immunity in mice  
David Lynn  
South Australian Health and Medical Research Institute, Australia

10:15 Exploring the role of RORa on trained immunity in human monocytes  
Gizem Kilic  
Radboud University Medical Center, The Netherlands

10:30 Systemic bacterial burden of sepsis-challenged neonatal mice significantly associated with survival  
Byron Brook  
University of British Columbia, Canada

10:45-11:15 Morning Coffee
11:15-12:30  **Session 4: Sex-differences in immunity and response to vaccines**  
*Chair: Eleanor Fish*

11:15  **Age-associated sex differences in immunity to seasonal inactivated influenza vaccines**  
*Sabra Klein*  
*Johns Hopkins University, USA*

11:45  **Sex-differential effects of rabies vaccine on survival in young free-roaming dogs, a novel animal model for the study of non-specific effects of vaccines in high-mortality populations**  
*Darryn Knobel*  
*Ross University School of Veterinary Medicine, West Indies*

12:15  **Female-biased effects of aging on a chimeric hemagglutinin-based universal influenza virus vaccine in mice**  
*Santosh Dhakal*  
*Johns Hopkins University, USA*

12:30-14:00  **Lunch**

14:00-15:30  **Session 5: Potential off-target use of vaccines**  
*Chair: Christine Stabell Benn*

14:00  **BCG vaccines off target effects: so many good things with an emphasis on type 1 diabetes**  
*Denise Faustman*  
*Massachusetts General Hospital, USA*

14:30  **Precision adjuvants for next generation vaccines tailored to vulnerable populations**  
*Ofer Levy*  
*Harvard University, USA*

15:00  **BCG vaccination is associated with reduced malaria prevalence in children under the age of five in sub-Saharan Africa**  
*Mike Berendsen*  
*Bandim Health Project, Guinea-Bissau*

15:15  **Discussion: How can we use off-target effects to optimize vaccination?**

15:30-16:00  **Afternoon Tea**

16:00-17:30  **Session 6: Conference Q&A**  
*Chair: Christine Stabell Benn*

*Young investigators (< 10 yrs post last degree [PhD, MD]) will be asked to provide one critical question related to the conference subject when registering. The organizers will select the 2 best abstracts to be presented during this session. In addition, the organizers will select the 5 most thought provoking questions, and they will be discussed in a subsequent panel session that will include relevant speakers and the young researchers who posed the critical questions.*
17:30-18:00  Lightning talks

18:00-19:00  Poster Session 2 (even numbers) with drinks reception

19:00  Dinner

**Friday, 21 February**

09:00-10:00  **Session 7: Vaccination of the elderly**  
*Chair: Sarah Prentice*

09:00  The impact of immunosenescence on immune responses after influenza vaccination in older individuals  
*Inna Ovsyannikova,  
Mayo Clinic, USA*

09:20  Evidence for immunomodulatory effects of vaccination in aging Australians  
*Katie Flanagan  
Monash University, Australia*

09:40  Panel discussion:  
Can vaccines be used to combat immunosenescence?

10:00-10:30  **Session 8: Non-specific effects of vaccines: a complex and controversial topic**  
*Chair: Eleanor Fish*

10:00  Non-specific effects of vaccines: Complex and controversial….and a challenge for current vaccine paradigms  
*Rebecca Chandler  
Uppsala Monitoring Centre, Sweden*

10:15  Discussion

10:30-10:45  **Morning Coffee**

10:45-12:45  **Session 9: Looking toward the future: New vaccines/testing products in pipeline**  
*Chair: Rebecca Chandler*

10:45  Specific and off-target effects of novel live attenuated pertussis vaccine  
*Camille Locht  
Institute Pasteur, France*
11:15 Impact of adjuvants, sex, and the microbiome on SIV-vaccine-induced immunity and protective efficacy in rhesus macaques
Marjorie Robert-Guroff
National Cancer Institute, USA

11:45 Vertically transferred immunity in neonates: Mothers, mechanisms and mediators
Petra Arck
University Medical Center Hamburg-Eppendorf, Germany

12:15 New live attenuated tuberculosis vaccine MTBVAC induces trained immunity and confers protection against experimental lethal pneumonia
Jorge Dominguez Andres
Radboud University Medical Center, The Netherlands

12:30 MV130 as a Trained Immunity-based Vaccine, clinical implications and mechanism of action
Laura Conejero
Immunotek, Spain

12:45-12:55 Closing remarks

12:55 -13:15 Lunch

13:15 Coach depart to Heathrow Airport via Stansted Airport
13:30 Coach departs to Cambridge City Centre and Train Station