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10th International Symposium on Bordetella

**Trinity Biomedical Sciences Institute
Trinity College Dublin, Ireland,
8-11 September 2013**

Provisional Programme

Sunday 8th September 18.00

- 18.00 Kingston Mills, Trinity College Dublin, Ireland
Opening remarks from Conference Organizer
- 18.15 Erik Hewlett, University of Virginia, Va, USA
Historical perspective of the pertussis / Bordetella meetings
- 18.30 James Cherry, UCLA, Ca, USA
Review of the pertussis vaccine trials
- 19.00 Welcome Reception

Monday 9th September

- Session-1 Genomics and Evolution of Bordetellae**
(Chair: Jeff Miller)
- 8.30-9.00 Simon Harris, Sanger Institute, Hinxton, Cambridge, UK
Comparative genomics and evolution of Bordetella
- 9.00-9.30 Andrew Preston, University of Bath, UK
*Filling in the gaps: genome sequencing of *Hinzii*, *Holmesii*, *Trematum* and *Ansorpilii**
- 9.30-10.00 Ruiting Lan, University of Sydney, Australia
Evolution of Bordetella pertussis in Australia

- 10.00-10.15 David Hot, Institute Pasteur of Lille and Univ. Lille, France
Short talk: *Characterisation of BprC an Antisense Small RNA of the 5'UTR of Bordetella pertussis Major Virulence Regulator Gene, bvgA*
- 10.15-10.30 Qing Chen, CBER/FDA, Bethesda, MD, USA
Short talk: *Bordetella pertussis RisA Activates bvg-Repressed Genes (vrgs) due to Mutation in risS*
- 10.30-11.00 Coffee
- 11.00 -11.30 Frits Mooi, RIVM, The Netherlands
Using "omics" to identify genes involved in adaptation and effective vaccine targets
- 11.30-12.00 Eric Harvill, Penn State University, Pa, USA
Emergence of multiple pathogens amongst the Bordetellae
- 12.00-12.15 Daan de Gouw, University Medical Centre, Nijmegen, The Netherlands
Short talk: *In vivo Transcriptional Responses of epidemic and previously dominant Bordetella pertussis Strains*
- 12.15-12.30 Liliana Losada, JCVI, Rockville, MD, USA
Short talk: *Genomic Analysis of the Classical Bordetella*
- 12.30-13.30 Lunch and poster viewing
- Session-2 Pathogenesis and Immunity**
(Chair: Alison Weiss)
- 13.30-14.00 Peter Sebo, Institute of Microbiology of the ASCR, Prague, Czech Republic
Adenylate cyclase toxin- role in pathogenesis and subversion of immunity
- 14.00- 14.30 Francoise Jacob-Dubuisson, Institut Pasteur de Lille, France
New insights into signal transduction by the sensor-kinase BvgS
- 14.30-15.00 Peggy Cotter, University of North Carolina at Chapel Hill, USA
Roles for three of the four acellular pertussis vaccine components revealed by studying B.bronchiseptica in its natural hosts
- 15.00-15.30 Tea/Coffee
- 15.30 –16.00 Nick Carbonetti, University of Maryland, Baltimore, USA
Multiple mechanisms of pertussis pathogenesis mediated by pertussis toxin
- 16.00-16.30 Rachel Fernandez, University of British Columbia, Vancouver, Canada
Immune modulation by Bordetella surface structures

- 16.30-16.45 Kaatje Smits, Université Libre de Bruxelles, Brussels, Belgium
Short talk: *Dissection of the Bordetella pertussis Memory T Cell Responses in 9 to 12 Years-Old Children Vaccinated with Whole Cell or Acellular Vaccines*
- 16.45-17.00 Wanda Han, RIVM, The Netherlands
Short talk: *Distinct End-Differentiation Patterns of Human Pertussis-Specific CD4+ T Cells*
- 17.30-19.00 Poster session

Tuesday 10th September

Session-3 Epidemiology, Infant Mortality and Diagnostics (Chair: Qiushui He)

- 8.30-9.00 Nicole Guiso, Institute Pasteur, Paris, France
Human Bordetella species: what's new
- 9.00-9.30 Tom Clark, CDC, Atlanta, USA
Pertussis epidemiology and vaccination in the United States
- 9.30-10.00 Scott Halperin, Dalhousie University, Halifax, NS, Canada
Epidemiology of pertussis in Canada: do we know what's happening?
- 10.00-10.15 Manisha Patel, Centers for Disease Control and Prevention, Atlanta, USA
Short talk: *Vaccine Effectiveness and Duration of Protection of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis among Adolescents, Washington State, 2012*
- 10.15-10.30 Natasha Crowcroft, Public Health Ontario and University of Toronto, Canada
Short talk: *Comparing the epidemiology of Pertussis in an Under-Immunized Community with the General Population during an outbreak in Ontario, Canada*
- 10.30-11.00 Tea / Coffee
- 11.00-11.30 Peter McIntyre, National Centre for Immunisation Surveillance and Research, NSW, Australia
Epidemiology of pertussis in Australia: Impact of vaccine strategies
- 11.30-12.00 Alberto Tozzi, Bambino Gesù Children's Hospital, Rome, Italy
Epidemiology and diagnosis of pertussis in Italy
- 12.00-12.15 David Litt, Public Health England, London, UK
Short talk: *An unexpected large rise in pertussis cases in the England and Wales during 2012 is not associated with genetic changes in the B. pertussis bacterial population*

- 12.15-12.30 Lucia Pawloski, *Centers for Disease Control and Prevention, Atlanta, USA*
Short talk: *Prevalence and molecular characterization of pertactin-deficient Bordetella pertussis in the US*
- 12.30-13.30 Lunch and Poster viewing
- 13.30-14.00 Kathy Edwards Vanderbilt University, Nashville, TN, USA
Severe pertussis in infants
- 14.00-14.30 Fritz Wirsing Von Konig, Medizin Krefeld MVZ GmbH, Krefeld, Germany
Biological diagnosis of Bordetella infections
- 14.30-14.45 Joshua Eby, University of Virginia, VA, USA
Short talk: *Modulation of Neutrophil Death by the Bordetella Adenylate Cyclase Toxin and Cyclic AMP*
- 14.45-15.00 Rajendar Deora, Wake Forest school of Medicine, Winston-Salem, NC, USA
Short talk: *Utilization of genomic mining to identify a Bordetella pertussis locus involved in Cellular Adherence, Resistance to Antimicrobial Peptides and PMN-mediated Killing*
- 15.00-15.30 Tea/ Coffee
- Session -4 New models and approaches to vaccination**
(Chair: Drusilla Burns)
- 15.30-16.00 Kingston Mills, Trinity College Dublin, Ireland
Rational design of a new pertussis vaccine based on adjuvants that induce protective cellular immunity
- 16.00-16.30 Tod Merkel, DBPAP/CBER/FDA, Bethesda, USA
Evaluating the host response to infection and vaccination in the baboon model of pertussis
- 16.30-17.00 Camile Locht, Institut Pasteur de Lille, France
Maternal versus neonatal immunization against pertussis, or both
- 17.00 -17.15 Arno van der Ark, Intravacc, Bilthoven, The Netherlands
Short talk: *Molecular Engineering of a Pertussis Outer Membrane Vesicle Vaccine*
- 17.15 -17.30 Maria Eugenia Rodriguez, Universidad Nacional de La Plata, Argentina
Short talk: *Two Antigens Identified by Immunoproteomics Proved to Be Good Candidates for a New Generation of Pertussis Acellular Vaccines*
- 19.30 Banquet

Wednesday 11th September

Session-5 The way forward: Strategies to address problems with pertussis vaccine
(Chair: Stanley Plotkin)

8.45 – 10.15 **What can be done to improve pertussis vaccines?**
Participants to include: Frits Mooi (new strains); Eric Harvill (new components); TBD (new adjuvants) and Camille Locht (live vaccines).

10.15-10.45 Coffee

10.45- 12.15 **Round table discussion**
Participants to include: Stanley Plotkin (Chair) Linda Hanssens, Michael Decker, Rino Rappuoli, Jan Poolman, Peter McIntyre and Drusilla Burns.

12.15-12.30 Xin-Xing Gu, NIAID/NIH, Bethesda, MD, USA
Short talk: *NIAID/NIH funding mechanisms and resources for pertussis research and product development*

12.30 Presentation of Travel awards and Close of meeting

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