10th International Symposium on Bordetella

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

Programme

Sunday 8th September 18.00

18.00  Kingston Mills, Trinity College Dublin, Ireland
       Welcome and opening remarks from Conference Organizer

18.15  Darina O’Flanagan, Director, Health Protection Surveillance Centre, Ireland.
       Official opening of the meeting with comments on Pertussis in Ireland

18.30  Erik Hewlett, University of Virginia, Va, USA
       Historical perceptive of the pertussis / Bordetella meetings

18.45  James Cherry, UCLA, Ca, USA
       Review of the pertussis vaccine trials

19.15  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
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title/Abstract</th>
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<tbody>
<tr>
<td>9.00-9.30</td>
<td>Andrew Preston, University of Bath, UK</td>
<td><em>Filling in the gaps: genome sequencing of Hinzii, Holmesii, Trematum and Ansorpii</em></td>
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<td>9.30-10.00</td>
<td>Ruiting Lan, University of Sydney, Australia</td>
<td><em>Evolution of Bordetella pertussis in Australia</em></td>
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<td>10.00-10.15</td>
<td>David Hot, Institute Pasteur of Lille and Univ. Lille, France</td>
<td><em>Short talk: Characterisation of BprC an Antisense Small RNA of the 5'UTR of Bordetella pertussis Major Virulence Regulator Gene, bvgA</em></td>
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<tr>
<td>10.15-10.45</td>
<td>Coffee</td>
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<td>10.45-11.15</td>
<td>Frits Mooi, RIVM, The Netherlands</td>
<td><em>Using &quot;omics&quot; to identify genes involved in adaptation and effective vaccine targets</em></td>
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<td>11.15-11.45</td>
<td>Eric Harvill, Penn State University, Pa, USA</td>
<td><em>Emergence of multiple pathogens amongst the Bordetellae</em></td>
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<td>11.45-12.00</td>
<td>Daan de Gouw, University Medical Centre, Nijmegen, The Netherlands</td>
<td><em>Short talk: In vivo Transcriptional Responses of epidemic and previously dominant Bordetella pertussis Strains</em></td>
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<td>12.00-12.15</td>
<td>Qing Chen, CBER/FDA, Bethesda, MD, USA</td>
<td><em>Short talk: Bordetella pertussis RisA Activates bvg-Repressed Genes (vrgs) due to Mutation in risS</em></td>
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<td>12.15-13.30</td>
<td>Lunch and poster viewing</td>
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**Session-2**  
**Pathogenesis and Immunity**  
(Chair: Alison Weiss)

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<tr>
<td>13.30-14.00</td>
<td>Peter Sebo, Institute of Microbiology of the ASCR, Prague, Czech Republic</td>
<td><em>Adenylyc cyclase toxin- role in pathogenesis and subversion of immunity</em></td>
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<td>14.00-14.30</td>
<td>Francoise Jacob-Dubuisson, Institut Pasteur de Lille, France</td>
<td><em>New insights into signal transduction by the sensor-kinase BvgS</em></td>
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<td>14.30-15.00</td>
<td>Peggy Cotter, University of North Carolina at Chapel Hill, USA</td>
<td><em>Roles for three of the four acellular pertussis vaccine components revealed by studying B.bronchiseptica in its natural hosts</em></td>
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<td>15.00-15.30</td>
<td>Tea/Coffee</td>
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<td>15.30 –16.00</td>
<td>Nick Carbonetti, University of Maryland, Baltimore, USA</td>
<td><em>Multiple mechanisms of pertussis pathogenesis mediated by pertussis toxin</em></td>
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<td>16.00-16.30</td>
<td>Rachel Fernandez, University of British Columbia, Vancouver, Canada</td>
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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  Cecile van Els, 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 Rajendr 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);
              Nathalie Garcon (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, John Robbins 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  Close of meeting

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