EMC programme 2018, Lady Margaret Hall

Monday 19th March 2018

18.00-19.30 Drinks reception
19.30 Dinner in hall

Tuesday 20th March 2018

07.30-09.00 Breakfast

09.00 – 10.30 Session 1: Opening and plenary talks

09.00 Susanna Dunachie (MORU, Thailand and Oxford University, UK) and Brian Angus
(Oxford University, UK) – Welcome
09.10 Chris Conlon (Head of Nuffield Department of Medicine, Oxford University, UK) – Opening Speech
09.20 Samantha Vermaak (VALIDATE Network Manager, University of Oxford, UK) - The
VALIDATE Network - Vaccine development for complex intracellular neglected pathogens
09.30 Paul Keim (University of North Arizona, USA) – Select agent research and the impact
of an intense regulatory environment
10.00 Eric Bertherat (WHO, Switzerland) – Melioidosis: neglected or forgotten disease

10.30-11.00 Break

11.00-12.30 Session 2: Clinical and Veterinary Aspects

Chairs: Bart Currie (Menzies, Australia) & Heinrich Neubauer (Friedrich-Loeffler-Institut, Germany)

11.00 Bart Currie (Menzies, Darwin) – Overview of clinical melioidosis
11.25 Heinrich Neubauer (Friedrich-Loeffler-Institut, Germany) – Glanders and melioidosis
in animals
11.45 Rachel Ximenes Ribeiro Lima (Fortaleza University, Brazil) - Melioidosis in a patriarch
of a Brazilian family helped to save a Great-Granddaughter member: Two cases
report
12.00 Enoka Corea (Colombo University, Sri Lanka) – Melioidosis in Sri Lanka
12.15 Manophab Luangraj (LOMWRU, Laos) - Melioidosis in Lao PDR: A 17-year prospective
hospital based study

12.30-13.30 Lunch

13.30 –15.00 Session 3: Epidemiology & Environmental

Chairs: David Dance (LOMWRU, Lao) & Direk Limmathurosksakul (MORU, Thailand and
Oxford University, UK)
13.30 Harjeet Virk (Academic Medical Center, Netherlands) – Global burden of melioidosis estimated in terms of disability adjusted life years: A systematic review and data synthesis

13.45 Rosalie Zimmermann (LOMWRU, Laos) - Rivers as transport vehicles and potential sentinels for \textit{b. pseudomallei} in the environment: A pilot study in Lao PDR

14.00 Edouard Galyov (Leicester University, UK) - Temperature-responsive virus lifecycle choices may explain seasonal dynamics of \textit{burkholderia pseudomallei}

14.15 Viriya Hantrakun (MORU, Thailand) - Limitation and rectification of national notifiable disease-surveillance data in a resource limit setting: an example of melioidosis in Thailand

14.30 Ana Karoline da Costa Ribeiro (Fortaleza University, Brazil) - Student-centred awareness of melioidosis

14.45 Rapid poster ads (2 mins each):
- Robert Cory Bernhards (DTRA, USA) - Highly rapid molecular detection of \textit{burkholderia pseudomallei} in soil
- Sujintha Janesomboon (Mahidol University, Thailand) - Development of a multiplex PCR-based method for detection of \textit{burkholderia pseudomallei} and \textit{burkholderia thailandensis} DNA from soil samples
- Dionne Bezerra Rolim (Fortaleza University, Brazil) - Health community agents: A public health strategy against melioidosis
- Viriya Hantrakun (MORU, Thailand) - Presence of \textit{b. thailandensis} and \textit{b. thailandensis} expressing \textit{b. pseudomallei}-like capsular polysaccharide in Thailand, and their associations with serological response to \textit{b. pseudomallei}
- Narisara Chantratita (Mahidol University, Thailand) - Effect of temperature on growth, proteomic changes, motility and resistance to stress environments of \textit{burkholderia pseudomallei}

15.00-15.30 Break

15.30-17.00 Session 4: Diagnosis and Treatment

Chairs: Ivo Steinmetz (University of Graz, Austria) & Tim Atkins (DSTL, UK)

15.30 Gabriel Wagner-Lichtenegger (University of Graz, Austria) - Identification and purification of new \textit{burkholderia pseudomallei} antigens and their potential use as serodiagnostic markers

15.45 Maria Chiara Rizzi (LOMWRU, Laos) - Testing the potential point of care role of a rapid diagnostic test in the early diagnosis of melioidosis: A pilot comparison with culture in Laos

16.00 Adam Taylor (DSTL, UK) - Targeting intracellular \textit{burkholderia} by antibody based combination therapies

16.15 Richard Sullivan (Royal Darwin Hospital, Australia) - Intravenous therapy duration and outcomes in melioidosis: Is the new paradigm working?

16.30 Jua Iwasaki (UWA, Australia) - Targeting immunophilins to develop antimicrobials against \textit{burkholderia pseudomallei}

16.45 Rapid poster ads (2 mins each):
• Heather McLaughlin (CDC, USA) - Rapid automated antimicrobial susceptibility testing of Burkholderia species by optical screening
• Haley DeMers (University of Nevada, USA) - Detection and quantification of capsular polysaccharide of Burkholderia pseudomallei in melioidosis patient urine samples
• Kay Barnes (DSTL, UK) - Treatment with finafloxacin is effective in a murine model of melioidosis

5.00-6.00pm Posters with refreshments

7.30pm Gala dinner

Wednesday 21st March 2018

07.30-09.00 Breakfast

9.00-10.15 Session 5: Genomics

Chairs: Paul Keim (University of North Arizona, USA) and Claire Chewapreecha (KMUTT, Thailand & Cambridge University)

09.00 Paul Keim (University of North Arizona, USA) – The Degradative evolution of a pathogen in a 15-year chronic melioidosis patient
09.20 Claire Chewapreecha (KMUTT, Thailand & Cambridge University) - Genetic variation in *Burkholderia pseudomallei* associated with disease potential and interactions with diabetes mellitus status in human melioidosis
09.40 Chiranjay Mukhopadhyay (Manipal University, India) - Genetic diversity and variable virulence factors of *Burkholderia pseudomallei* from India
10.00 Rapid poster ads (2 mins each)
  • Taksaon Duangurai (Mahidol University, Thailand) - Alteration of *Burkholderia pseudomallei* proteome after serial passages in Luria-Bertani medium
  • Marine Schnetterle (Institute TBC) - Whole genome sequencing and transcriptomic analysis to investigate morphotype and antibiotic resistance divergence between *B. pseudomallei* clinical isolates from a chronically infected patient.
  • Mindy Glass Elrod (CDC, USA) - Investigation into non-motile *Burkholderia pseudomallei* isolates - Motility as a virulence factor?

10.15-10.45 Break

10.45 – 12.30 Session 6: Pathogenesis & Immunology

Chairs: Rosemary Boyton (Imperial College, London, UK) & Eoin West (University of Washington, USA)
10.45: Suzanne Kalb (CDC, USA) - Characterization of the enzymatic activity of *burkholderia* lethal factor

11.00: Panjaporn Chaichana (MORU, Thailand) - Increased serum level of IgG2 subclass was associated with survival in human melioidosis

11.15: Emma Birnie (Academic Medical Center, Netherlands) - Platelets play a protective role in the host defence against *burkholderia pseudomallei* (melioidosis)

11.30: Fazle Chowdhury (Oxford University, UK) - Reduced activation and function of mucosal-associated invariant T (MAIT) cells by *burkholderia pseudomallei* in acute and recovered melioidosis patients

11.45: Patpong Rongkard (MORU, Thailand) - The cross-reactivity of human humoral and cellular immune responses to *b. pseudomallei* and avirulent *burkholderia* species

11.53: Sabine Wagner-Lichtenegger (University of Graz, Austria) - Establishment of a standardized primary human macrophage-based infection model for *b. pseudomallei*

12.01: Lynda Jane Partridge (Sheffield University, UK) - A role for host tetraspanin proteins in giant cell formation induced by *burkholderia thailandensis*

12.09: Débora Castelo Branco de Souza Collares Maia (Ceara University, Brazil) - Biofilm, protease and siderophore production by clinical and environmental isolates of *burkholderia pseudomallei* from Brazil

12.17: Christopher Jenkins (DSTL, UK) - Investigating KdsD, an enzyme involved in the synthesis of the core region of the lipopolysaccharide.

12.30-13.30 Lunch

**13.30-15.00 Session 7: Vaccines & Prevention**

Chairs: Rick Titball (Exeter University, UK) & Vicki Krause (Department of Health for the Northern Territories, Australia)

13.30 Vicki Krause (Department of Health for the Northern Territories, Australia) – Melioidosis, aspects of prevention

13.48 Louise Gourlay (University of Milan, Italy) - Structural vaccinology for a melioidosis vaccine: An overview

14.06 Paul Brett (University of Nevada, USA) - Subunit vaccines provide robust protection against acute inhalational melioidosis

14.24 Alfredo Torres (University of Texas, USA) - Development of gold-nanoparticle glycoconjugate vaccines against *burkholderia*

14.42 Pornpan Suntornsut (MORU, Thailand) - Feasibility and initial outcomes of a prevention programme of melioidosis in diabetics in Thailand: A pilot study

15.00-15.30 Break

**15.30-16.00 Session 8 – Closing session**

15.30 Susanna Dunachie (MORU, Thailand and Oxford University, UK) and Brian Angus (Oxford University, UK) – Closing Speech and announcement of prizes (best oral presentation by an Early Career Scientist and best poster)
15.40  Direk Limmathurotsakul (MORU, Thailand and Oxford University, UK) - Announcement of EMC 2021

15.50  Trinh Thanh Trung (Vietnam National University, Hanoi, Host of World Melioid Congress 2019)

16.00  Close of Meeting
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<tr>
<th>Name</th>
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<th>Topic</th>
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<tr>
<td>Alex R Hoffmaster</td>
<td>Centers for Disease Control and Prevention, USA</td>
<td>Diagnosis and Treatment</td>
<td>Two cases of melioidosis in the U.S. Virgin Islands following Hurricane Maria - 2017</td>
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<tr>
<td>Barbara Kronsteiner-Dobramysl</td>
<td>Tropical Medicine, University of Oxford</td>
<td>Pathogenesis and Immunology</td>
<td>CX3CR1 expressing cytotoxic lymphocytes are a novel correlate of survival from acute melioidosis</td>
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<td>Christian Kohler</td>
<td>Friedrich Loeffler Institute of Medical Microbiology, University Medicine Greifswald</td>
<td>Pathogenesis and Immunology</td>
<td>GvmR - A new LysR-type regulator involved in secondary metabolism and virulence in Burkholderia pseudomallei</td>
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<td>Christopher Kevin Cote</td>
<td>United States Army Medical Research Institute of Infectious Diseases (USAMRIID)</td>
<td>Clinical and Veterinary Aspects</td>
<td>The impact of age and gender on mouse models of melioidosis</td>
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<td>Diep The Tai</td>
<td>Microbiology and Immunology Department, Pasteur Institute HCMC, Vietnam</td>
<td>Diagnosis and Treatment</td>
<td>Glochidion littorale Blume: new candidate for controlling of Burkholderia pseudomallei infections</td>
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<td>Galina Vladimirovna Mukamolova</td>
<td>Department of Infection, Immunity and Inflammation, University of Leicester, UK</td>
<td>Pathogenesis and Immunology</td>
<td>Investigating the lytic transglycosylases of Burkholderia pseudomallei</td>
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<td>Jelmer Savelkoel</td>
<td>Center for Experimental Molecular Medicine, University of Amsterdam, NL</td>
<td>Clinical and Veterinary Aspects</td>
<td>The typical melioidosis patient: a systematic review</td>
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<tr>
<td>Kei Amemiya</td>
<td>Bacteriology Division, United States Army Medical Research Institute of Infectious Diseases (USAMRIID)</td>
<td>Pathogenesis and Immunology</td>
<td>The expression of inflammatory cytokines is primarily associated with pyogranulomatous lesions in a chronic mouse model of melioidosis</td>
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<td>Michael McArthur</td>
<td>Norwich Medical School, University of East Anglia, UK</td>
<td>Diagnosis and Treatment</td>
<td>The development of a nanoparticulate delivery system for oligonucleotide antimicrobials to treat Burkholderia species in the lung</td>
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<td>Michelle Nelson</td>
<td>Microbiology, DSTL, UK</td>
<td>Clinical and Veterinary Aspects</td>
<td>A novel NHP model to assess post-exposure co-trimoxazole therapy against melioidosis acquired by different exposure routes</td>
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<td>Muthita Vanaporn</td>
<td>Faculty of Tropical Medicine, Mahidol University, Thailand</td>
<td>Diagnosis and Treatment</td>
<td>Trehalose phosphate phosphatase, an antimicrobial target in Burkholderia pseudomallei</td>
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<td>Nicole Malgorzata Bzdyl</td>
<td>Sarkar-Tyson Lab, University of Western Australia, Australia</td>
<td>Pathogenesis and Immunology</td>
<td>Folding your way to Greater Pathogenicity; the role of cyclophilins in Burkholderia pseudomallei virulence</td>
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<td>Patricia Lynne Worsham</td>
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<td>The African Green Monkey as a Model for Glanders and Melioidosis</td>
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<td>Pierre A. Michel</td>
<td>Centers for Disease Control and Prevention, USA</td>
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<td>Rapid Detection of Burkholderia pseudomallei From Small Volumes of Urine Using Filter-Concentration with Active Melioidosis Detect Lateral Flow Immunoassay</td>
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<td>Pornpan Pumirat</td>
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<td>Pathogenesis Of Human Skin Fibroblasts Exposed To Burkholderia Pseudomallei</td>
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<td>Sandra Schwarz</td>
<td>University of Tuebingen, Germany</td>
<td>Pathogenesis and Immunology</td>
<td>Determinants of the polar localization of the Burkholderia type VI secretion system 5</td>
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<td>Sarah Harding</td>
<td>Microbiology, DSTL, UK</td>
<td>Diagnosis and Treatment</td>
<td>Finafloxacin demonstrates utility in treating Burkholderia pseudomallei infections in vivo</td>
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<td>Sineenart Sengyee</td>
<td>Faculty of Tropical Medicine, Mahidol University, Thailand</td>
<td>Pathogenesis and Immunology</td>
<td>Comprehensive analysis of clinical Burkholderia pseudomallei isolates demonstrates conservation of unique lipid A structure and TLR4-dependent innate immune activation</td>
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<td>Sirikamon Koosakulnirand</td>
<td>Faculty of Tropical Medicine, Mahidol University, Thailand</td>
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<td>Immune response to recombinant Burkholderia pseudomallei FliC</td>
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<td>Vanaporn Wuthiekanun</td>
<td>Mahidol-Oxford Tropical Medicine Research Unit, Thailand</td>
<td>Epidemiology and Environmental</td>
<td>Survival of Burkholderia pseudomallei and Leptospira in Popular Cold Drinks</td>
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