## SCIENTIFIC PROGRAM

### Tuesday, October 15, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>2:00-5:00 pm</td>
<td>Registration open</td>
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<tr>
<td>5:00-7:00 pm</td>
<td>Welcome reception</td>
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### Wednesday, October 16, 2019

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<tr>
<th>Time</th>
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<tr>
<td>7:00-8:00 am</td>
<td>Registration open</td>
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<tr>
<td>8:00-8:45 am</td>
<td>Opening Ceremony</td>
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<td>- Welcome</td>
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<td>- Representative from Ministry of Health</td>
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<td>- Representative from Vietnam National University</td>
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<td>8:45-9:15 am</td>
<td>KEYNOTE (Simultaneous Vietnamese translation)</td>
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<td></td>
<td>Joost Wiersinga, University of Amsterdam, the Netherlands</td>
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<td>What can the melioidosis community learn from the sepsis field?</td>
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<td>9:15-9:45 am</td>
<td>Break</td>
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<td>9:45-12:00 am</td>
<td>CLINICAL ASPECTS SESSION (Simultaneous Vietnamese translation)</td>
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<tr>
<td></td>
<td>Chairs: David Dance and Do Duy Cuong</td>
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<td>Invited speakers: Bart Currie, Menzies School of Health Research, Darwin, Australia</td>
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<td>Melioidosis and the accidental opportunist</td>
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<td>Susie Dunachie, Oxford University, UK</td>
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<td>Diabetes and melioidosis: what is the interaction, and what can we do?</td>
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<td>Sotharith Bory, Calmette Hospital, Phnom Penh, Cambodia</td>
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<td>Melioidosis and tuberculosis: the great mimicker</td>
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<td>Selected presentations: Jelmer Savelkoel, University of Amsterdam, the Netherlands</td>
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<td>Melioidosis in travelers: an analysis of Dutch Melioidosis Registry data 1985-2018</td>
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<td>Thong Phe, Sihanouk Hospital Center of HOPE, Cambodia</td>
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<td>Epidemiology, clinical characteristics, outcome and factors influencing mortality of melioidosis in a Cambodian referral hospital: a 12-year retrospective study</td>
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<td>Pham Thai Son, Children’s Hospital 2, Ho Chi Minh city, Vietnam</td>
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<td>Characteristics of recently detected paediatric melioidosis in Southern Vietnam</td>
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<td>Tonnii Sia, Sarawak General Hospital, Kuching, Sarawak, Malaysia</td>
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<td>Pulmonary melioidosis in Malaysian Borneo - a single centre experience</td>
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<td>12:00-1:15 pm</td>
<td>Lunch</td>
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<td>1:15-2:45 pm</td>
<td>DIAGNOSTICS SESSION (Simultaneous Vietnamese translation)</td>
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<td>Chairs: Vanaporn Wuthiekanun and Nguyen Vu Trung</td>
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<td>Invited speaker: Narisara Chantratita, Mahidol University, Thailand</td>
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<td>Identification of diagnostic markers for melioidosis by understanding the host response and bacterial exposure</td>
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<td>Selected presentations: P. Keim, Northern Arizona University, USA</td>
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<td>BurkPx: a multiplex serodiagnostic bead assay to monitor Burkholderia pseudomallei exposures in non-human primates</td>
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Laurel T. Jenkins, Centers for Disease Control and Prevention, Atlanta, USA
Evaluation of *Burkholderia* species inactivation procedures

Mary N. Burtnick, University of Nevada, Reno School of Medicine, Reno, NV, USA
Identification of *Burkholderia cepacia* strains that express a *Burkholderia pseudomallei*-like capsular polysaccharide

Ian Gassiep, Townsville Hospital, Townsville, Australia
Identification of *Burkholderia pseudomallei* using the VITEK mass spectrometer

2:45-3:15 pm Break

3:15-4:15 pm Flash talks 1 (1 slide)
Poster presentation 1

3:15-4:15 pm Poster presentation 1

4:15-6:15 pm ANTIBIOTIC TREATMENT AND RESISTANCE SESSION (Simultaneous Vietnamese translation) Chairs: Bart Currie and Wirongrong Chierakul

Invited speaker: Herbert Schweizer, University of Florida, USA
Antibiotic resistance in *Burkholderia pseudomallei*: implications for melioidosis therapy

Selected presentations: Derek S. Sarovich, University of the Sunshine Coast, Sippy Downs, Queensland, Australia
Comprehensive antimicrobial resistance detection from over 1,000 *Burkholderia pseudomallei* genomes

Carina M. Hall, Northern Arizona University, USA
Intrinsic and acquired antibiotic resistance in clinically relevant antibiotics - Which antibiotics rise to the top for melioidosis treatment?

Riccardo V. D’Elia, DSTL Porton Down, Salisbury, UK
Increased efficacy of antibiotic treatment for melioidosis using a vesicular oral delivery system

Michelle Nelson, DSTL Porton Down, Salisbury, UK
Efficacy of co-trimoxazole against melioidosis acquired by different routes of infection

Kay B. Barnes, DSTL Porton Down, Salisbury, UK
Investigating bacterial emergence following antibiotic treatment of a murine model of melioidosis

Courtney M. Sullivan, University of Western Australia, Australia
Targeting Ara4N synthesis in *Burkholderia pseudomallei*

7:30-10:30 pm Conference Dinner and HISTORY SESSION (Simultaneous Vietnamese translation) Chairs: Trinh Thanh Trung and Ivo Steinmetz

Invited speakers: David Dance, Lao-Oxford-Mahosot Hospital-Wellcome Trust Research Unit (LOMWRU), Laos
Whitmore and Krishnaswami revisited

Enoka Corea, University of Colombo, Sri Lanka
Lucius Nicholls - a man for all seasons
Thursday, October 17, 2019
7:30-8:30 am Registration open

| 8:30-10:15 am | EPIDEMIOLOGY SESSION I  
*Chairs: Ya-Lei Chen and Paul Keim*

Invited speaker:  
(Direk Limmathurotsakul, Mahidol University, Thailand)  
**Update on epidemiology of melioidosis**

Selected presentations:  
(Harjeet Virk, University of Amsterdam, the Netherlands)  
**Global burden of melioidosis, 2015: a systematic review and data synthesis**

(Mindy Glass Elrod, Centers for Disease Control and Prevention, Atlanta, USA)  
**Update on melioidosis in the Americas**

(Jedsada Kaewrakmuk, Chiang Mai University, Chiang Mai, Thailand)  
**Molecular epidemiology of melioidosis in southern Thailand**

(Erez Bar-Haim, Israel Institute for Biological Research, Ness-Ziona, Israel)  
**Characterization of a rare clinical isolate of* Burkholderia pseudomallei* associated with recreational traveling from India to Israel**

(Rachel Ximenes Ribeiro Lima, Universidade de Fortaleza - Unifor, Ceará, Brazil)  
**Melioidosis in children and teenagers in Ceará: a case series in 16 years**

(Enoka M. Corea, University of Colombo, Sri Lanka)  
**Unearthing a subterranean infection: the Sri Lankan experience**

| 10:15-10:45 am | Break

| 10:45 am-12:15 pm | PATHOGENESIS SESSION  
*Chairs: Joost Wiersinga and David DeShazer*

Invited speaker:  
(Gan Yunn Hwen, National University of Singapore, Singapore)  
**What is the consequence of* Burkholderia* induced host cell fusion for the bacteria and the host?**

( Nicole M. Bzdyl, University of Western Australia, Perth, WA, Australia)  
**Peptidyl-prolyl isomerase, ppiB, is essential for proteome homeostasis and virulence in* Burkholderia pseudomallei* **

(Jessica R. Webb, Menzies School of Health Research, Darwin, Australia)  
**Burkholderia pseudomallei* lipopolysaccharide genotypes: clinical and geographical associations of >1,300 strains from the tropical “Top End” of the Northern Territory, Australia**

(Sarunporn Tandhavanant, Mahidol University, Thailand)  
**Hemolysin co-regulated protein 1 (Hcp1) variant is associated with decreased virulence and low antigenicity in* Burkholderia pseudomallei* **

(Christopher Jenkins, DSTL Porton Down, Salisbury, UK)  
**Investigating KdsD, an enzyme involved in the synthesis of the core region of LPS, in* Burkholderia pseudomallei* **

(Javier I. Sanchez-Villamil, University of Texas Medical Branch, USA)  
**Modelling* Burkholderia pseudomallei* as a gastrointestinal pathogen and in* vitro* and in* vivo* testing to identify intestinal-specific virulence factors**

| 12:15-1:15 pm | Lunch |
### EPIDEMIOLOGY SESSION II
**Chairs:** Direk Limmathurotsakul and Harjett Virk

**Invited speaker:** Ya-Lei Chen, National Kaohsiung Normal University, Kaohsiung, Taiwan  
Transmission modes of melioidosis in Taiwan

**Selected presentations:**  
- Ella Meumann, Menzies School of Health Research, Darwin, Australia  
  Clinical features and epidemiology of the emergent Asian *Burkholderia pseudomallei* sequence type 562 in northern Australia

- Johanna S. Salzer, Centers for Disease Control and Prevention, Atlanta, USA  
  Case report and investigation of melioidosis in a resident of Texas, USA

- Manophab Luangraj, Lao-Oxford-Mahosot Hospital-Wellcome Trust Research Unit (LOMWRU), Laos  
  The epidemiology and clinical features of melioidosis in Lao PDR: a 17-year prospective hospital based study

- Chiranjay Mukhopadhyay, Manipal Academy of Higher Education, Manipal, India  
  Exploring melioidosis in India for last 30 years

- Timothy J. J. Inglis, PathWest Laboratory Medicine Western Australia, Australia  
  Machine learning applications for melioidosis epidemiology in Sri Lanka

### VETERINARY ASPECTS SESSION
**Chairs:** Narisara Chantratita and Natkunam Ketheesan

**Invited speaker:** Apichai Tuanyok, University of Florida, USA  
Melioidosis in intensive pig farming system in southern Thailand

**Selected presentations:**  
- Audrey Rachlin, Menzies School of Health Research, Darwin, Australia  
  Melioidosis in captive slender-tailed meerkats (*Suricata suricatta*) and hatchling saltwater crocodiles (*Crocodylus porosus*): Combining epidemiology, pathology and whole-genome sequencing to resolve two clusters of fatal *B. pseudomallei* infections at a Northern Australia Wildlife Park

- Gabriel E. Wagner, Medical University of Graz, Graz, Austria  
  Glanders serodiagnostics: protein microarray guided development of a highly sensitive and specific lateral flow assay

### IMMUNE RESPONSE SESSION
**Chairs:** Susie Dunachie and Eoin West

**Invited Speaker:** Danniel Altmann, Imperial College London, UK  
Immunity to *Burkholderia* - what do we know and what do we urgently need to know?
Selected presentations: (10 min each)

Apinya Pumpuang, Mahidol University, Thailand
Distinct classes and subclasses of antibodies to hemolysin co-regulated protein 1 and O-polysaccharide and correlation with clinical characteristics of melioidosis patients

Panjaporn Chaichana, Mahidol University, Thailand
Identification of protective antibody profiles for vaccine development against melioidosis

Barbara Kronsteiner-Dobramysl, Oxford University, UK
Altered T cell metabolism, fuel utilization and metabolome is associated with diabetes status in Thai melioidosis patients and endemic controls

Patpong Rongkard, Oxford University, UK
Altered transcriptomic profiles in melioidosis patients with type 2 diabetes

Taniya Kaewpapai, Mahidol University, Thailand
Longitudinal immunoprofiling of plasma cytokines predicts outcomes in melioidosis

Jonathan Warawa, University of Louisville, USA
IL-12 microparticle therapeutic to respiratory melioidosis

Friday, October 18, 2019
8:00-8:30 am Registration open

8:30-10:15 am ENVIRONMENTAL ASPECTS SESSION
Chairs: Mark Mayo and David Dance

Invited Speaker: Mirjam Kaestli, Menzies School of Health Research, Australia
Burkholderia pseudomallei in the environment - we have only scratched the surface

Selected presentations: (10 min each)

Sheila Nathan, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia
Mapping the Burkholderia pseudomallei transcriptional landscape under conditions that mimic the environmental and clinical niche

Abdul Karim Russ Hassan, Universiti Kuala Lumpur Royal College of Medicine Perak, Malaysia
From laboratory based methods to deployable molecular detection of Burkholderia pseudomallei in the environmental settings in Malaysia

David M. Wagner, Northern Arizona University, Flagstaff, USA
Burkholderia pseudomallei is rare but ecologically established in Puerto Rico and the US Virgin Islands

Tushar Shaw, Manipal Academy of Higher Education, Manipal, India
Determining the influence of environmental factors on the presence of B. pseudomallei in the Indian soil

Khemngeun Pongmala, Université Paul Sabatier, Toulouse, France
Occurrence of Burkholderia pseudomallei along a 3 m deep soil profile in a paddy field of central Laos

Karoline Assig, Medical University of Graz, Graz, Austria
Getting closer to the environmental burden of Burkholderia pseudomallei: A new erythritol-based enrichment method improves cultural isolation of B. pseudomallei from rice paddy soils

10:15-10:45 am Break
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| 10:45 am-12:00 pm | GENOMICS, PROTEOMICS AND METABOLOMICS SESSION  
**Chairs:** Paul Keim and Sheila Nathan |
|               | **Invited speaker:** Claire Chewapreecha, Mahidol-Oxford Tropical Medicine Research Unit (MORU), Thailand  
**Genome-wide epistasis analyses identify genetic factors underlying Burkholderia pseudomallei survival in hostile environments** |
|               | **Selected presentations:**  
Lindsey K. Schmidt, University of Nevada, Reno School of Medicine, Reno, NV, USA  
**Use of bacterial cell surface labeling to identify new melioidosis vaccine candidates**  
David DeShazer, US Army Medical Research Institute of Infectious Diseases, Maryland, USA  
**Genetic, structural and functional characterization of novel, cryptic metabolites in Burkholderia thailandensis with potent antibiotic activity**  
Heather P. McLaughlin, Centers for Disease Control and Prevention, Atlanta, USA  
**In silico analyses of penicillin binding proteins in Burkholderia pseudomallei uncovers SNPs with utility for phylogeography and species differentiation** |
| 12:00-1:15 pm | Lunch |
| 1:15-3:00 pm | VACCINES AND PREVENTION SESSION  
**Chairs:** Jo Prior and Paul Brett |
|               | **Invited speaker:** Alfredo Torres, University of Texas Medical Branch, USA  
**Defining correlates of protection of an effective melioidosis vaccine** |
|               | **Selected presentations:**  
Daniel Tapia, University of Texas Medical Branch, USA  
**Nanovaccines as highly immunogenic and protective therapy against inhalational Burkholderia pseudomallei infection**  
Paul J. Brett, University of Nevada, Reno School of Medicine, Reno, NV, USA  
**Subunit vaccines provide robust protection against a high dose challenge of Burkholderia pseudomallei**  
Taylor, A. W., DSTL Porton Down, UK  
**Targeting intracellular Burkholderia with monoclonal antibodies**  
Prior, J.L., DSTL Porton Down, UK  
**Novel anti-microbial therapies for melioidosis**  
Nittaya Khakhum, University of Texas Medical Branch, USA  
**Evaluation of Burkholderia pseudomallei tonB hcp1 live attenuated vaccine strain against aerosolized melioidosis infection**  
Caitlyn E. Orne, University of Nevada, Reno School of Medicine, Reno, NV, USA  
**Development of novel melioidosis vaccines using site-specific, single-point attachment of CPS to carrier proteins** |
| 3:00-3:30 pm | Break |
| 3:30 pm      | Concluding Remarks  
Announcement of WMC 2022 |