

SCIENTIFIC PROGRAM

Tuesday, October 15, 2019

2:00-5:00 pm Registration open

5:00-7:00 pm Welcome reception

Wednesday, October 16, 2019

7:00-8:00 am Registration open

8:00-8:45 am

Opening Ceremony

- Welcome
- Representative from Ministry of Health
- Representative from Vietnam National University

8:45-9:15 am

KEYNOTE (Simultaneous Vietnamese translation)
Joost Wiersinga, University of Amsterdam, the Netherlands
What can the melioidosis community learn from the sepsis field?

9:15-9:45 am

Break

9:45-12:00 am

CLINICAL ASPECTS SESSION (Simultaneous Vietnamese translation)
Chairs: David Dance and Do Duy Cuong

Invited speakers:
(20 min each)

Bart Currie, Menzies School of Health Research, Darwin, Australia
Melioidosis and the accidental opportunist

Susie Dunachie, Oxford University, UK
Diabetes and melioidosis: what is the interaction, and what can we do?

Sotharith Bory, Calmette Hospital, Phnom Penh, Cambodia
Melioidosis and tuberculosis: the great mimicker

Selected presentations:
(10 min each)

Jelmer Savelkoel, University of Amsterdam, the Netherlands
Melioidosis in travelers: an analysis of Dutch Melioidosis Registry data 1985-2018

Thong Phe, Sihanouk Hospital Center of HOPE, Cambodia
Epidemiology, clinical characteristics, outcome and factors influencing mortality of melioidosis in a Cambodian referral hospital: a 12-year retrospective study

Pham Thai Son, Children's Hospital 2, Ho Chi Minh city, Vietnam
Characteristics of recently detected paediatric melioidosis in Southern Vietnam

Tonnii Sia, Sarawak General Hospital, Kuching, Sarawak, Malaysia
Pulmonary melioidosis in Malaysian Borneo - a single centre experience

12:00-1:15 pm

Lunch

1:15-2:45 pm

DIAGNOSTICS SESSION (Simultaneous Vietnamese translation)
Chairs: Vanaporn Wuthiekanun and Nguyen Vu Trung

Invited speaker:
(20 min)

Narisara Chantratita, Mahidol University, Thailand
Identification of diagnostic markers for melioidosis by understanding the host response and bacterial exposure

Selected presentations:
(10 min each)

P. Keim, Northern Arizona University, USA
BurkPx: a multiplex serodiagnostic bead assay to monitor *Burkholderia pseudomallei* exposures in non-human primates

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 *Burkholderiacepacia* strains that express a *Burkholderiapseudomallei*-like capsular polysaccharide

Ian Gassiep, Townsville Hospital, Townsville, Australia

Identification of *Burkholderiapseudomallei* using the VITEK mass spectrometer

2:45-3:15 pm

Break

3:15-4:15 pm

Flash talks 1 (1 slide)
Poster presentation 1

4:15-6:15 pm

ANTIBIOTIC TREATMENT AND RESISTANCE SESSION (Simultaneous Vietnamese translation)
Chairs: Bart Currie and Wirongrong Chierakul

Invited speaker:
(20 min)

Herbert Schweizer, University of Florida, USA

Antibiotic resistance in *Burkholderiapseudomallei*: implications for melioidosis therapy

Selected presentations:
(10 min each)

Derek S. Sarovich, University of the Sunshine Coast, Sippy Downs, Queensland, Australia

Comprehensive antimicrobial resistance detection from over 1,000 *Burkholderiapseudomallei* 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 *Burkholderiapseudomallei*

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:
(20 min)

Direk Limmathurotsakul, Mahidol University, Thailand
Update on epidemiology of melioidosis

Selected presentations:
(10 min each)

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:
(20 min)

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

Selected presentations:
(10 min each)

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

1:15-3:00 pm

EPIDEMIOLOGY SESSION II

Chairs: DirekLimmathurotsakul and Harjett Virk

Invited speaker:
(20 min)

Ya-Lei Chen, National Kaohsiung Normal University, Kaohsiung, Taiwan
Transmission modes of melioidosis in Taiwan

Selected presentations:
(10 min each)

Ella Meumann, Menzies School of Health Research, Darwin, Australia
Clinical features and epidemiology of the emergent Asian *Burkholderiapseudomallei* 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

ManophabLuangraj, 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

Jessica R. Webb, Menzies School of Health Research, Darwin, Australia
Epidemiological tracking of human melioidosis cases back to the environmental source using MLST and whole-genome sequencing: a 30-year summary of melioidosis source tracing in the Northern Territory, Australia

3:00-4:00 pm

VETERINARY ASPECTS SESSION

Chairs: NarisaraChantratita and NatkunamKetheesan

Invited speaker:
(20min)

ApichaiTuanyok, University of Florida, USA
Melioidosis in intensive pig farming system in southern Thailand

Selected presentations:
(10 min each)

Audrey Rachlin, Menzies School of Health Research, Darwin, Australia
Melioidosis in captive slender-tailed meerkats (*Suricata suricatta*) and hatchling saltwater crocodiles (*Crocodylusporosus*): 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

4:00-4:30 pm

Break

04:30-5:30 pm

Flash talks 2 (1 slide)
Poster presentation 2

5:30-7:15 pm

IMMUNE RESPONSE SESSION

Chairs: Susie Dunachie and Eoin West

Invited Speaker:
(20 min)

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 Kaewarpai, 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:
(20 min)

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

10:45 am-12:00 pm

GENOMICS, PROTEOMICS AND METABOLOMICS SESSION

Chairs: Paul Keim and Sheila Nathan

Invited speaker:
(20 min)

Claire Chewapreecha, Mahidol-Oxford Tropical Medicine Research Unit (MORU), Thailand

Genome-wide epistasis analyses identify genetic factors underlying *Burkholderiapseudomallei* survival in hostile environments

Selected presentations:
(10 min each)

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 *Burkholderiathailandensis* with potent antibiotic activity

Heather P. McLaughlin, Centers for Disease Control and Prevention, Atlanta, USA

In silico analyses of penicillin binding proteins in *Burkholderiapseudomallei* 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:
(20 min)

Alfredo Torres, University of Texas Medical Branch, USA

Defining correlates of protection of an effective melioidosis vaccine

Selected presentations:
(10 min each)

Daniel Tapia, University of Texas Medical Branch, USA

Nanovaccines as highly immunogenic and protective therapy against inhalational *Burkholderiapseudomallei* 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 *Burkholderiapseudomallei*

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

NittayaKhakhum, University of Texas Medical Branch, USA

Evaluation of *Burkholderiapseudomallei* Δ tonB Δ 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