



Public Health Night

22nd August 2019

- Event Report -

Public Health Night 2019 was hosted by the ASM Victorian Branch in conjunction with the Doherty Institute Cross Cutting Disciplines in Public Health and held at the Doherty Institute. The event was chaired by Dr. Mike Catton, Director of the Victorian Infectious Diseases Reference Laboratory (VIDRL) and Deputy-Director of the Doherty Institute. Six excellent speakers from VIDRL, the Microbiological Diagnostic Unit Public Health Laboratory (MDUPHL), and the Victorian Department of Health and Human Services (DHHS) updated the nearly 100 attendees on three diverse and interesting topics.

The following talk summaries have been provided by the speakers:

Mycobacterium tuberculosis: Transmission Update.

Presented by Ee Laine Tay (DHHS) and Kristy Horan (MDUPHL)

In 2018 MDUPHL in conjunction the Victorian DHHS and the Mycobacteria Reference Laboratory (MRL) at VIDRL aimed to sequence at least 500 retrospective isolates from the MRL collection and began sequencing all *M. tuberculosis* isolates in real time. At the end of August over 1000 isolates had been sequenced including the 500 retrospective isolates. The Victorian *M. tuberculosis* has isolates representing all major international lineages, consistent with a large proportion of Victorian cases being epidemiologically linked to non-Australian born individuals or travellers. Using phylogenetic analysis and single-linkage clustering, 21 clusters of 3 or more isolates that were considered related to each other were identified. Some of these relationships supported the available epidemiological data. However, in some cases the identification of genomic relationships informed further epidemiological investigations, resulting in interventions to prevent further spread of *M. tuberculosis* within the community. In summary, this pilot project has resulted in the development of sustainable laboratory and bioinformatic pipelines that has been incorporated into workflows at MRL and MDUPHL. In addition, the use of genomic data has enhanced epidemiological investigations.

Candida auris: Superfungus.

Presented by Donna Cameron (DHHS) and Courtney Lane (MDUPHL)

Candida auris is an emerging healthcare-associated pathogen that presents a serious global health threat. It is often multi-drug resistant, difficult to identify with standard laboratory methods and has been associated with outbreaks in hospital settings. In July 2018, the Victorian DHHS was advised of a *C. auris* isolate from a patient previously hospitalised overseas. Contact tracing commenced in two hospitals the patient had been admitted to on return to Australia. A second case was identified, also with a history of hospitalisation overseas and admissions to the same hospitals as the first case. Whole genome sequencing was performed on isolates from both cases and on two further epidemiologically unrelated cases. Phylogenetic analysis revealed putative transmission between the first two cases and suspected overseas acquisition in the remaining cases. Following identification of these cases, the Victorian *C. auris* guideline for health services was developed and will be released early September 2019. The

guidelines outline screening, laboratory and infection prevention and control recommendations for the identification and management of *C. auris* cases.

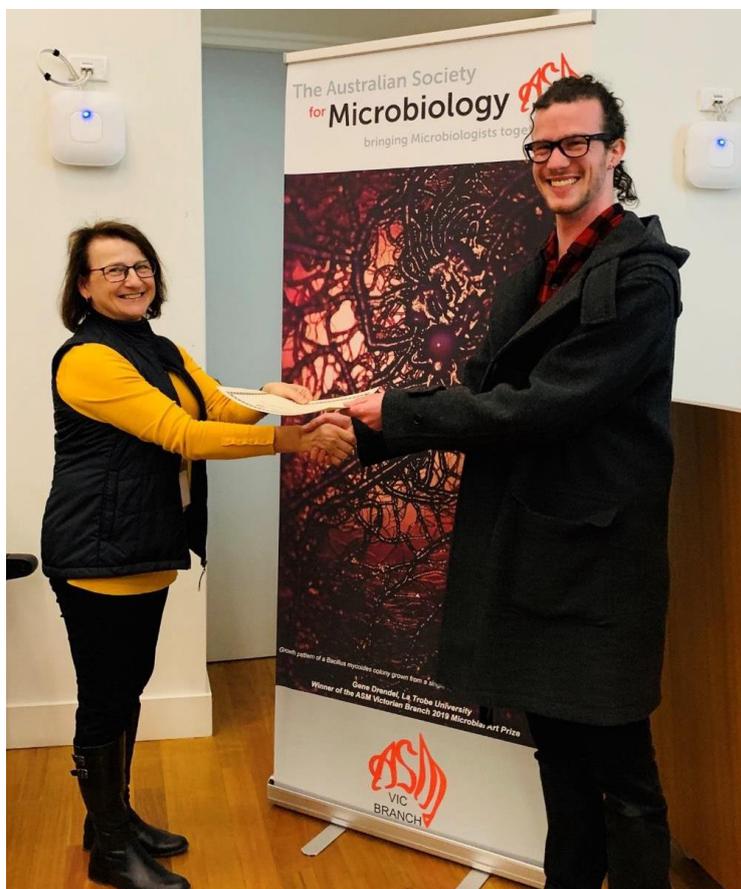
Measles: Making a Comeback.

Presented by Janet Strachan (DHHS) and Suellen Nicholson (VIDRL)

Nicholson S¹, Gibney K^{2,3}, Strachan J², Cross G⁴, Attwood L⁵, Healy J², Stambos V¹, Catton M¹. ¹ VIDRL, ² DHHS, ³ Doherty Institute, ⁴ National University of Singapore, ⁵ Alfred Hospital

After prolonged periods of high vaccine coverage, Australia was declared free of endemic measles in March 2014. However, returning travellers from measles endemic countries may transmit measles to non-immune individuals in Australia. In Victoria between 2014–2016, 13% of reported measles cases occurred in individuals with prior measles immunity. Some of these had IgG avidity testing performed, and were found to have high avidity antibody, consistent with past measles immunologic responses, and referred to as 'measles re-infection cases'. Presented was a review of measles cases in Victoria over the last 10 years and what appears to be an emerging trend in a measles elimination setting.

Also, during Public Health Night, the ASM Victorian Branch presented the winner of the 2019 Microbial Art Prize and revealed the new banner with the winning image. Congratulations to Gene Drendel from La Trobe University, for his image Growth pattern of a *Bacillus mycoides* colony grown from a single spot as it spreads across an agar plate. Pictured is Gene receiving his prize from ASM Victorian Branch Deputy Chair Mary Valcanis in front of the new banner. Congratulations Gene!



Report contributed by Sarah Baines and Mary Valcanis