

Bacpath 16

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This year, the 16th ASM Bacterial Pathogens (Bacpath) conference was held in Brisbane between 27 and 30 September 2022 using venues located at the University of Queensland and the Emporium Hotel near South Bank Parklands. After a year's delay due to COVID-19, it was fantastic to be able to hold a face-to-face meeting, giving the 175 participants from all over Australia an opportunity to (re)connect with colleagues, and to meet new researchers in this exciting research field. The scientific program was diverse and stimulating with leading and emerging microbiologists from around Australia presenting an exciting array of science, research and the advances in the field of bacterial infection and pathogenesis.

The conference kicked off with a welcome reception at the Emporium Hotel. As it had been 3 years since the last physical Bacpath, it was an excellent opportunity to catch up with old friends and network with new colleagues in the stylish surrounds of the Emporium Hotel Piano bar that features a self-playing grand piano.

The scientific program commenced on the Wednesday morning with the ASM Bacpath Oration presented by Prof. Dena Lyras. The talk, 'From plasmid biology to pathogenesis: a series of fortunate events', was a fascinating walk-through of the research, from her early work on fundamentals of plasmid biology to her current studies in bacterial virulence.

Perhaps inspired by Prof. Lyras' presentation, recent research on *Clostridioides difficile* was a real highlight of the conference with award-winning talks from Ashleigh Rogers, Diana Lopez-Urena, Christine Ong and Dr Yogitha Srikhanta. These talks covered a range of diverse virulence functions discovered in *C. difficile*, including impediment of host colonic repair, effects on the enteric nervous system and links between sporulation and antibiotic resistance.

Wednesday continued with high-quality presentations across a variety of areas including 'host-pathogen interactions', 'characterising virulence determinants', 'gene regulation' and 'structure and function of virulence factors'. Research on the antibiotic resistance and persistence of urinary tract infections was a highlight with award winning presentations by PhD students Sophia Hawas and Chyden Chang. The final session of the day began with an excellent talk by Dr Stephanie Neville on the structural basis of bacterial manganese import. Finally, we concluded the day back at the Emporium Hotel for networking and poster session.

Thursday saw a change in focus with our second keynote speaker, Prof. Michael Jennings, discussing the importance of studying

glycan-based host-pathogen interactions to develop diagnostics, preventatives and cures for infectious diseases. The day continued with sessions on 'surface factor biology', 'antibiotic resistance', 'detection, treatment and vaccines' and 'metabolism and virulence'. Award-winning talks by Winton Wu on 'Uncovering the role of the functional small RNA interactome in antibiotic tolerance in *Staphylococcus aureus*' and Maoge Zang on 'The multifunctional roles of membrane-integrated phosphatases in *A. baumannii* envelope biology' were a further highlight. The day's final session included our third keynote speaker, Prof. Deborah Williamson, detailing novel approaches to the detection, prevention and control of bacterial sexually transmitted pathogens. Thursday evening was again spent at the Emporium Hotel for a fantastic poster session, before the majority of the networking moved up to the rooftop bar, the Terrace, with fantastic views over Brisbane.

On Friday, Prof. Tim Stinear presented his Keynote talk on 'Resistance, persistence and *Staphylococcus aureus*'. The conference concluded at lunchtime, following two final sessions on 'host-pathogen interactions' and 'regulation of bacterial virulence'. Throughout the 3 days, our delegates enjoyed the fabulous science, stimulating discussions and great catering that was provided, and we are all already looking forward to the next Bacpath, which will be held in NSW and will provide more opportunities to showcase new, high-quality research on bacterial pathogens.



The award winners from Bacpath.

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