



AUSTRALIAN PATHOGEN GENOMICS PROGRAM

Integrating pathogen genomics into public health

AUSPATHOGEN PARTNER SYMPOSIUM PROGRAMME



THURSDAY, 23 JUNE 2022

8.00am - 4.00pm

Auditorium One, Michael Spence Building
University of Sydney

Hosted by: Professor Ben Howden and the AusPathoGen
Executive Group



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#APGSymposium

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AUSPATHOGEN EXECUTIVE GROUP & SPEAKERS



Prof Ben Howden, AusPathoGen Program Lead, Executive Group

Prof Howden is a medical microbiologist, infectious diseases physician and molecular biologist. He is Director of the Microbiological Diagnostic Unit Public Health Laboratory (MDU PHL) at the Doherty Institute, Medical Director of the Doherty Centre for Applied Microbial Genomics and a Laboratory Head in the Department of Microbiology and Immunology at the University of Melbourne. He is currently the Chair of the Public Health Laboratory Network (PHLN) and Co-Chair of the Communicable Diseases Genomics Network (CDGN).



A/Prof Torsten Seemann, AusTrakka Testing and Deployment Lead, Executive Group

A/Prof Seemann is a bioinformatician specialising in applied microbial genomics. He is lead bioinformatician at MDU PHL at the Doherty Institute and Doherty Applied Microbial Genomics.



A/Prof Amy Jennison, Executive Group

A/Prof Jennison completed her PhD on bacterial virulence and vaccine development at Australian National University and has worked as a Molecular Epidemiologist in the Forensic and Scientific Services Public Health Microbiology Laboratory of Queensland Health since 2006. She leads a team in the molecular detection, characterisation and typing of microbes, particularly notifiable pathogens.



Prof Vitali Sintchenko, Executive Group

Prof Sintchenko is a leading public health microbiologist and informatician who conducts research on bio-surveillance of communicable diseases. He is Chair of PHLN, a Fellow of the Royal College of Pathologists of Australasia and the Australian College of Health Informatics, and Director of the CIDM-Public Health (a translational research hub funded by New South Wales Health).



Prof Martyn Kirk, Executive Group

Prof Kirk is Professor of Applied Epidemiology at the Australian National University. Professor Kirk has worked for over twenty years in state and territory, and federal health departments in the areas of infectious disease surveillance and investigation. In 2000, Prof Kirk was appointed as the Coordinating Epidemiologist of OzFoodNet to establish national surveillance of foodborne diseases.



Prof Kathryn Glass, Executive Group

Professor Kathryn Glass is the Head of the Infectious disease Epidemiology and Modelling group in the Research School of Population Health at the Australian National University. She has a PhD in mathematics from the University of Cambridge, and 15 years of experience in developing mathematical and statistical models of infectious disease transmission.

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Prof Deb Williamson, Executive Group

Prof Williamson is a clinical and public health microbiologist. She is Director of the Victorian Infectious Diseases Reference Laboratory (VIDRL) at the Doherty Institute, Laboratory Head in the Department of Microbiology and Immunology at the University of Melbourne, Director of Microbiology at The Royal Melbourne Hospital and Co-Chair of the Communicable Diseases Genomics Network (CDGN).



Ms Amy Black, Executive Group

Amy Black is the A/g Director of Laboratories and Health Security Section for the Australian Government Department of Health - Office of Health Protection and Response Division.



Ms Rose Wright, Executive Group

Rose Wright is the Director of Communicable Disease, Epidemiology and Surveillance Section for the Australian Government Department of Health - Office of Health Protection and Response Division.



Ms Zeinab Bazzi, Executive Group

Zeinab Bazzi is the A/g Director of Antimicrobial Resistance Policy Section for the Australian Government Department of Health - Office of Health Protection and Response Division.



Dr Danielle Ingle

Dr Danielle Ingle is an NHMRC Emerging Leadership Fellow with the Department of Microbiology and Immunology at the Doherty Institute. Dr Ingle's fellowship integrates microbial genomics with population modelling, antimicrobial resistance data and epidemiology of enteric bacterial pathogens that represent significant threats to public health. Dr Ingle completed her PhD at the University of Melbourne in 2017 and moved to the Australian National University as a Research Fellow investigating the evolution and epidemiology of multidrug resistant enteric bacteria.



Prof Steven Djordjevic

Steven Djordjevic is Professor of Infectious Disease and Theme Lead: Pathogen Proteomics & Genomics at the Australian Institute for Microbiology & Infection at the University of Technology Sydney. His research generates and interrogates genomic and proteomic data to mitigate against antimicrobial resistance, formulate a deeper understanding of pathogen evolution and to identify and characterise novel antigens for vaccine development. Professor Djordjevic is a cofounder of AusGEM, the Australian Centre for Genomic Epidemiological Microbiology, a collaborative partnership with the NSW Department of Primary Industries.

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Dr Anne Watt

Dr Anne Watt is a Genomic Epidemiologist working in the International Genomics Team at the Microbiological Diagnostic Unit Public Health Laboratory at the Doherty Institute, Melbourne. Anne has a background in veterinary microbiology and her work focuses on the integration of genomic and epidemiological data for pathogen surveillance.



Dr Susan Ballard

Dr Susan Ballard is a member of Communicable Diseases Genomics Network (CDGN) and the Principal Scientist of the Microbiological Diagnostic Unit Public Health Laboratory at the Doherty Institute. Dr Ballard is a Molecular Microbiologist with research interests in the genomics of antimicrobial resistance and healthcare associated infections.



Prof Tim Stinear

Professor Tim Stinear is a molecular microbiologist and research-teaching academic, leading a team of scientists focused on understanding how certain types of bacteria spread and cause disease. In addition, he is the Scientific Director of the Doherty Applied Microbial Genomics centre and a National Health and Medical Research Council Senior Fellow.



Dr Sebastian Duchene

Dr Sebastian Duchene is an early career research fellow at the Doherty Institute. He obtained his PhD in 2015 and conducted postdoctoral work at the University of Sydney, which involved understanding the timescales over which viruses evolve. At present he is developing approaches to leverage genome data with epidemiological information in outbreaks of infectious microbes.



Prof Bart Currie

Professor Bart Currie is an infectious diseases and public health physician at Royal Darwin Hospital and Professor in Medicine at the Northern Territory Medical Program. He leads the Tropical and Emerging Infectious Diseases team at Menzies School of Health Research and was Director of the NHMRC-funded Tropical Disease Research Regional Collaboration Initiative (HOT NORTH). He is a member of the National COVID-19 Health and Research Advisory Committee and the Technical Reference Group for the Australian Government's Regional Health Security Initiative. He chairs the Expert Reference Panel of APPRISE.



A/Prof Nicola Stephens

Associate Professor Nicola Stephens is an infectious diseases epidemiologist and the Acting Director of Public Health Programs in the School of Medicine at the University of Tasmania where she coordinates the Graduate Certificate in Health Protection and the Master of Public Health research pathway. Prior to this, Nicola spent 15 years as a senior public health manager in governments in Victoria, NSW and Tasmania where her primary responsibilities included managing communicable disease epidemiology and surveillance.

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WELCOME

8.00 - 9.15am

Pre-conference breakfast

8.00 - 9.00am



Welcome and housekeeping Introduction to AusPathoGen Program

9.00 - 9.15am

Professor Ben Howden | University of Melbourne

SESSION 1

Introduction to the foundational projects

9.15 - 11.40am



Introduction to APG working groups and foundational projects identification

9.15 - 9.20am

Prof Ben Howden, University of Melbourne



Salmonella

9.20 - 9.50am

A/Prof Amy Jennison, Forensic and Scientific Services

Salmonella scene setter

Rapid fire presentation from project leads:

- National snapshot of Salmonella enterica (APG001)
- National snapshots of AMR in Salmonella enterica (APG002)
- National genomic surveillance of Salmonella Typhi to inform empirical treatment (APG003)

Feedback session



Tuberculosis

9.50 - 10.20am

Prof Vitali Sintchenko, University of Sydney

Tuberculosis scene setter

Rapid fire presentation from project leads:

- Establish national surveillance system to identify Mtb clusters and AMR (APG005)
- Validate high resolution typing scheme for identifying Mtb clusters (APG006)
- Genomics informed AMR detection for Mtb (APG007)

Feedback session

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BREAK

10.20 - 10.40am



Shigella

Dr Danielle Ingle, University of Melbourne

10.40 - 11.05am

Shigella scene setter

Rapid fire presentation from project leads:

- National snapshot of XDR Shigella and implementation (APG004)

Feedback session



Evaluation

*Prof Katie Glass and Prof Martyn Kirk,
Australian National University*

11.05 - 11.40am

Evaluation scene setter

Rapid fire presentation from project leads:

- Public health transformation and impact on disease incidence and prevalence (APG008)
- Exploration of ethical, legal, and social implications of pathogen genomics (APG009)
- Expert elicitation - ranking the benefits of sequencing different pathogens for public health (APG010)
- Economic evaluation of genomic-based public health response (APG011)
- Capacity for translation (APG012)

Feedback session

LUNCH

11.40 - 12.30pm

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SESSION 2

Introduction to cross-cutting themes

12.30 - 2.00pm



One Health

Prof Steven Djordjevic, University of Technology Sydney and Dr Anne Watt, University of Melbourne

Introduction, project summary and feedback

12.30 - 1.00pm



Teaching and Training

Dr Susan Ballard, CDGN

Introduction, project summary and feedback

1.00 - 1.30pm



Innovative Novel Data Approaches

Prof Tim Stinear and Dr Sebastián Duchêne, University of Melbourne

Introduction, project summary and feedback

1.30 - 2.00pm

BREAK

2.00 - 2.15pm

SESSION 3

Facilitated discussions (Concurrent sessions)

2.15 - 3.00pm



Workshop 1: How to put Australia at the forefront of genomics public health research?

Prof Bart Currie, Menzies School of Health Research



Workshop 2: Optimal models for integration of pathogen genomics into public health

A/Prof Nicola Stephens, University of Tasmania

BREAK

3.00 - 3.20pm

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SESSION 3

*Feedback facilitated discussions and
closing statements*

3.20 - 4.00pm



Workshop 1: How to put Australia at the forefront of genomics public health research?

3.20 - 3.30pm

Nominated reporter



Workshop 2: Optimal models for integration of pathogen genomics into public health

3.30 - 3.40pm

Nominated reporter



Closing statements

3.40 - 4.00pm

Prof Ben Howden, University of Melbourne

CLOSE

4.00pm

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ACKNOWLEDGEMENTS

Thank you to all partners of the AusPathoGen Program.

