

## Applied Bioinformatics & Public Health Microbiology

**Wellcome Genome Campus  
Hinxton, Cambridge, UK**

**5 – 7 June 2019**

### Conference Programme

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#### Wednesday, 5 June

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|-------------|---|
| 11:45-12:50 | Registration with lunch   |
| 12:50-13:00 | <b>Welcome from programme committee</b>   |
| 13:00-14:00 | <p><b>Keynote lecture:</b><br/> <i>Chair: Kathryn Holt, Monash University, Australia</i></p> <p>Demystifying cholera global epidemiology<br/> <i>Nick Thomson</i><br/> <i>Wellcome Sanger Institute, UK</i></p>   |
| 14:00-15:30 | <p><b>Session 1: Challenges in public health genomics</b><br/> <i>Chair: Kathryn Holt, Monash University, Australia</i></p> <p>14:00 Sample Design for Phylogenetic Inference: Thoughts and Basic Results<br/> <i>Justin Lessler</i><br/> <i>Johns Hopkins University, USA</i></p> <p>14:30 Consequences of within-host dynamics on the evolutionary epidemiology of viruses<br/> <i>Katrina Lythgoe</i><br/> <i>University of Oxford, UK</i></p> <p>15:00 Detecting hospital transmission of superbugs using genomics<br/> <i>Claire Gorrie</i><br/> <i>University of Melbourne</i></p> <p>15:15 2 minute Lightning talk presentations:</p> <ol style="list-style-type: none"> <li>1) Bede Constantinides, Nuffield Department of Medicine, UK</li> <li>2) Esther Robinson, Public Health Englan, UK</li> <li>3) Leonor Sanchez Buso, Wellcome Sanger Institute, UK</li> <li>4) Miguel Moreno Molina, Biomedicine Institute of Valencia (CSIC), Spain</li> </ol> |

- 5) Silvia García Cobos, University Medical Center Groningen, Netherlands
- 6) Sophia David, Wellcome Sanger Institute, UK
- 7) Stephanie Thiede, University of Michigan, USA

15:30-16:00

Afternoon tea

16:00-17:45

**Session 2: Deploying genomics in remote and/or under-resourced settings**

*Chair: Nick Loman, University of Birmingham, UK*

16:00 Deploying Viral Genomics in Rural Coast of Kenya: Insight and Challenges

*George Githinji*

*KEMRI-Wellcome Trust, Kenya*

16:30 Genomics for research and surveillance in Nigeria: imperative, challenges and prospective rewards

*Iruka Okeke*

*University of Ibadan, Nigeria*

17:00 Pay As You Go Bioinformatics : Running large scale genomic analyses for public health laboratories without access to on-premise high performance computing

*Anthony Underwood*

*Centre for Genomic Pathogen Surveillance, WSI, UK*

17:15 Identifying local transmission dynamics from multiple sources of information with TRAPPER (Transmission Reconstruction And Phylogenetics Promoting Early Response).

*John McCrone*

*University of Edinburgh, UK*

17:30 2 minute Lightning talk presentations:

- 1) Ingra Claro, University of Birmingham, UK
- 2) Josefina Campos, INEI-ANLIS, Argentina
- 3) June Gayeta, Research Ins. for Tropical Medicine, Philippines
- 4) Kirstyn Brunner, University of Glasgow, UK
- 5) Melissa Ana Masim, Research Ins. for Tropical Medicine, Philippines
- 6) Shirlee Wohl, Johns Hopkins University, USA
- 7) Stefan Rooke, University of Edinburgh, UK

17:45-19:15

**Poster Session I with drinks reception** (odd numbers)

19:15-21:00

Dinner

19:15-23:00

Cash Bar

**Thursday, 6 June**

09:00-10:30

**Session 3: Beyond bacteria: fungal, parasite, and viral genomics***Chair: Jennifer Gardy, Bill and Melinda Gates Foundation, USA*

09:00 Genomic approaches towards tackling Emerging Fungal Threats

*Matt Fisher**Imperial College London, UK*

09:30 Molecular surveillance for malaria elimination

*Caroline Buckee**Harvard University, USA*10:00 Integrating genetic epidemiology into routine surveillance of  
Plasmodium falciparum in the Greater Mekong Subregion (GMS)*Christopher Jacob**Wellcome Sanger Institute, UK*

10:15 Hospital-associated influenza transmission in a UK teaching hospital

*Ben Warne**University of Cambridge, UK*

10:30-11:00

Morning coffee

11:00-12:30

**Session 4: Data integration and data-sharing***Chair: Jennifer Gardy, Bill and Melinda Gates Foundation, USA*

11:00 Building trust in health data innovation

*Nicola Perrin**Wellcome, UK*11:30 HALviz: integrating genomic and epidemiological data to investigate  
healthcare-associated infections*Scott Beatson**University of Queensland, Australia*12:00 Automated connection of diagnostics with instant outbreak triage  
and live global surveillance for TB.*Zamin Iqbal**EMBL-EBI, UK*

12:15 Real-time outbreak surveillance for health departments and hospitals

*David Dynerman**Chan-Zuckerberg Biohub, USA*

12:30-13:30

Lunch

13:30-15:20

**Session 5: Bioinformatics***Chair: Nick Loman, University of Birmingham, UK*

13:30 The Next Step for Nextstrain: Tracking Pathogen Evolution and Transmission

*Emma Hodcroft**University of Basel, Switzerland*

14:00 Bioinformatic tools for the next era of genomic epidemiology

*Torsten Seemann**University of Melbourne, Australia*

14:30 Interactive Campylobacter Storytelling

*Margaret Varga**University of Oxford, UK*

14:45 NGS analysis methods for Illumina data while the sequencer is running

*Simon Tausch**Federal Institute for Risk Assessment, Germany*

15:00 1 minute Lightning talk presentations:

- 1) Nabil Fareed, Alikhan Quadram Institute Bioscience, UK
- 2) Derya Aytan Aktug, Technical University of Denmark
- 3) Martin Basterrechea Salido, Statens Serum Institut, Denmark
- 4) Sarah Bastkowski, Earlham Institute, UK
- 5) Bert Bogaerts, Sciensano, Belgium
- 6) James Bray, University of Oxford, UK
- 7) Anamaria Crisan, University of British Columbia, Canada
- 8) Richard Goater, CGPS, UK
- 9) Emma Griffiths, University of British Columbia, Canada
- 10) William Hsiao, BC Centre for Disease Control, Canada
- 11) Keith Jolley, University of Oxford, UK
- 12) Margaret Lam, Monash University, Australia
- 13) Wing Yin Venus Lau, Simon Fraser University, Canada
- 14) Catarina Mendes, Instituto de Medicina Molecular, Portugal
- 15) Rachel Norris, Oxford University, UK
- 16) Andrew Page, Quadram Institute Bioscience, UK
- 17) Will Rowe, UKRI, UK
- 18) Dennis Schmitz, RIVM, Netherlands public health, Netherlands
- 19) Judit Szarvas, Technical University of Denmark, Denmark

15:20-16:00

Afternoon tea

16:00-17:30

**Bioinformatics showcase**

17:30-19:00

**Poster session 2 with drinks reception (even numbers)**

19:00-20:30 Conference Dinner

20:30-23:00 **Sponsored drinks reception by Oxford Nanopore**

## Friday, 7 June

09:00- 10:00

### **Session 6: Cultures and typing in the 21st century**

*Chair: Kathryn Holt, Monash University, Australia*

09:00 Culture-free sequencing of bacterial pathogens direct from clinical sample

*Lachlan Coin*

*University of Queensland, Australia*

09:30 Sequencing in the Clinical Microbiology Laboratory in 2019

*Robin Patel*

*Mayo Clinic, USA*

10:00 The extent of phenotypic sampling required to sustain DNA-based diagnostics for antimicrobial resistance

*Allison Hicks*

*Harvard University, USA*

10:15 Quest for the one true test: enrichment-based metagenomic sequencing in paediatric meningitis and adult sepsis

*Tanya Golubchik*

*University of Oxford, UK*

10:30 Morphoseq enables high throughput long read sequencing for public health microbiology

*Mike Imelfort*

*University of Technology Sydney, Australia*

10:45-11:15

Morning coffee

11:15-12:15

### **Keynote**

*Chair: Jennifer Gardy, Bill and Melinda Gates Foundation, USA*

A Conversation with WHO: Communicating Around Infectious Disease

*Gabriella Stern*

*World Health Organization, Switzerland*

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- 12:15-12:20 Closing remarks
- 12:20-13:30 Lunch
- 13:30 **Conference close**
- 13:30 **Transport departs for Cambridge, Stansted and Heathrow**