

CENTRE OF INFECTIOUS DISEASES AND MICROBIOLOGY-PUBLIC HEALTH

WORKSHOP ON MICROBIAL WHOLE GENOME SEQUENCING

CALL FOR EXPRESSIONS OF INTEREST

The Centre of Infectious Diseases and Microbiology-Public Health at Westmead Hospital is planning a new workshop and colloquium in 2012 on microbial whole genome sequencing in diagnostic microbiology and public health. The aim of the workshop is to train microbiologists in WGS analysis and interpretation of its results using sequencing data and clinical cases from their own laboratories. We intend to sequence 10 bacterial genomes of clinical and/or public health relevance and to use them as the case scenarios for the workshop and a subsequent colloquium. The purpose of the WGS colloquium is to offer an opportunity to share the results of these analyses and to review the role of WGS in diagnostic microbiology.

We seek Expressions of Interest from pathologists and laboratory scientists for participation in this workshop and for the whole genome sequencing (WGS) of significant bacterial isolates recently recovered in their laboratories. The set of isolates will be sequenced under the auspices of CIDM-PH (with at least 20x coverage for 90% of the genome's length) and the assembled genomes will be used as teaching cases.

The selection of 10 isolates for WGS will be based on the following three criteria:

- clinical significance of the isolate
- potential of WGS to generate actionable clinical and/or public health information
- availability of reference genomes (we will not attempt *de novo* sequencing and assembly).

All pre-selected isolates will be sequenced by CIDM-PH prior to the workshop. Participants will have an opportunity to learn methods of WGS analysis and interpretation using their own isolate data with associated clinical and public health histories in order to undertake an integrated analysis of a complete microbial genome in a clinical context. The findings from these analyses will be presented by the workshop participants at a separate CIDM-PH WGS colloquium in Sydney later next year. The following topics will be covered in the WGS Workshop and the Microbial WGS Colloquium:

- Whole genome sequencing technologies and their utility in a diagnostic/public health laboratory
- Design of WGS experiments
- Microbial sequence assembly and quality assessment
- Comparative genomics for microbiologists
- Genome browsers and small scale genome annotation
- Bioinformatics pipelines for near real-time whole genome sequencing.

Workshop will last 5 full days and registration fees are estimated as \$2,500 to cover the WGS consumables, hands-on training, printing material, administration costs and daily refreshments as well as attendance of the WGS Colloquium.

If you are interested in participating in this initiative please complete the attached form and email or fax it to Dr Vitali Sintchenko (vitali.sintchenko@swahs.health.nsw.gov.au), fax number +612 9893 8659. **The deadline for submissions is the 12th of November 2011.** Enquiries should be forwarded to Ms Lou Orszulak (email: lou_orszulak@swahs.health.nsw.gov.au or phone: +612 9845 6255).