



# GENOMICS PLATFORM

Monash University Malaysia's Genomics Platform\* (MUMGP) is an ISO9001-certified infrastructure platform that provides the highest quality of massively parallel, high-throughput nucleic acid sequencing and bioinformatics services and training to researchers, students and clients, both internal and external, local and international.

We provide short- and long-read sequencing of whole or partial genomes and transcriptomes for a wide range of organisms, thus, supporting multidisciplinary research.

\*Previously known as Monash University Malaysia Genomics Facility

## KEY INSTRUMENTATION

- Illumina MiSeq sequencer
- PacBio Sequel IIe system
- Oxford Nanopore MinION Mk1B
- Oxford Nanopore PromethION 2 Solo
- Agilent TapeStation 2200 and 4200
- Agilent Femto Pulse system
- Invitrogen Qubit Flex Fluorometer
- Beckman Coulter Biomek 4000 Automated Workstation
- Covaris M220 Focused Ultrasonicator
- Sage BluePippin Automated DNA Size Selection system
- Promega Maxwell RSC 48 Instrument
- High Performance Computers running on Linux OS

## EXPERTISE

We provide the following high-quality services:

- Nucleic acids (DNA/RNA) extraction from a variety of biological and environmental sources.
- Nucleic acids (DNA/RNA) library preparation and quality checks
- Generation of short or long-read nucleic acid sequences
- Consultation and assistance with study design
- Troubleshooting technical problems and bioinformatics support
- Training in genomics and bioinformatics

## WORKING WITH US

- Collaborative research
- Consultancies
- Fee for service
- Training

## SPECIALIST SERVICES

Our instruments enable us to provide sequencing services for three high-throughput sequencing platforms using short- or long-read sequencing of whole or partial genomes and transcriptomes for a wide range of organisms. Genomics Platform also supports the undergraduate science teaching program in genomics and bioinformatics and provides training apprenticeships and research internships for undergraduate students in genomics and bioinformatics. We also routinely provide training and workshops for internal and external researchers in genomics and bioinformatics.

### Specialist Service #1: Short-Read Sequencing

The Illumina MiSeq short-read sequencing is the core service at Genomics Platform. The short-read sequencing service supports a wide range of applications including microbial population profiling (16S), targeted amplicon sequencing, bacterial or viral whole genome sequencing, transcriptomics, epigenomics and restriction-site associated DNA (RAD) sequencing.

### Specialist Service #2: Long-Read Sequencing

Our long-read sequencing services are based on the Oxford Nanopore Technologies Minlon flowcell and PacBio Sequel IIe System platforms, providing options for researchers based on the suitability of research objectives and available budget. The long-read sequencing services support de novo whole genome sequencing, metagenomics sequencing, full-length 16S ribosomal RNA sequencing and transcriptomics (RNA Seq and Iso-Seq).

### Specialist Service #3: Bioinformatics Services

All bioinformatics analyses are performed after understanding the objectives and requirements of each project. We strongly encourage researchers and clients to set up a consultation session with us before engaging these services to ensure that the study designs are appropriate and that the data is generated according to the investigator's requirements.

### Other Capabilities

- DNA and RNA quantitation using Agilent TapeStation and Femto Pulse system
- DNA shearing using Covaris M220
- Equipment access (Covaris, Qubit Flex, Maxwell RSC 48)
- Bioinformatics support for students and collaborators

#### Genomics Platform

Building 3, Level 3, School of Science,

Monash University Malaysia

E [mum.genomics@monash.edu](mailto:mum.genomics@monash.edu)

#### Professor Qasim Ayub

Director

T +603 5514 6106

E [qasim.ayub@monash.edu](mailto:qasim.ayub@monash.edu)

#### Lim Shu Yong

Assistant Manager, Research and Technical Services

T +603 55159756

E [lim.shuyong@monash.edu](mailto:lim.shuyong@monash.edu)

[monash.edu.my/research/genomics](http://monash.edu.my/research/genomics)

