GMI12 NGS workshop program
Nanyang Technological University, Singapore

Computer Laboratory 1 (MAS), School of Physical and Mathematical Sciences (SPMS), SPMS-MAS-03-02,
21 Nanyang Link, Singapore 637371
http://maps.ntu.edu.sg/maps#q:Computer%20Laboratory%201%20(MAS)

Whole Genome Sequencing - One Health Microbiology



Day 1: Monday 10th June 2019

Time	Day 1	Responsible
8:30-9:00	Registration	NTU
9:00-9:30	“An Introduction to Next Generation Sequencing (NGS) (include “The basic’s and potentials about NGS from a technological point of view”)”	DTU
9:30-10:00	QC sequencing data – FASTQC	DTU
10:00-10:15	Introduction to CGE tools	DTU
10:15-11:00	KmerFinder for species identification MLST typing using CGE tools	DTU
11:00-11:15	Coffee Break	
11:15-12:45	Identification of resistance genes (ResFinder), Plasmid replicons (PlasmidFinder) and pMLST	DTU
12:45-13:45	Lunch	
13:45-15:15	Introduction to SNP Analysis SNP tree construction using CSI Phylogeny	DTU
15:15-16:15	Tree Visualizer (FigTree and iTol)	DTU
16:45-17:00	Coffee Break	
17:00-17:45	Make your own database using MyDbFinder	DTU
17:45-18:15	A Bacterial Analysis Platform: An Integrated System for Analysing Bacterial Whole Genome Sequencing Data for Clinical Diagnostics and Surveillance	DTU
	END OF DAY 1	

Day 2: Tuesday 11th June 2019

Time	Day 2	Responsible
8:30-9:00	Registration	NTU
09:00-9:30	Introduction to NCBI Website including Sequence data download from Genbank and NCBI BLAST	FDA
9:30-11:00	Tutorial: Pathogen Detection Website and Hands on Exercises	FDA
11:00-11:15	**Coffee Break**	
11:15-12:15	Tutorial: GalaxyTrakr	FDA
12:15-13:15	**Lunch**	
13:15-14:00	Hands on Exercises	FDA
14:00-14:30	Introduction on Metagenomic Analyses	FDA
14:30-15:00	The Future of NGS in Food Safety and the Importance of a One Health Approach	FDA
15:00-15:15	**Coffee Break**	
15:15-16:00	An Introduction to Metagenomics – background and applications	DTU
16:00-17:00	OpenEBench, a tool for validating and benchmarking whole sequencing pipelines	BU-ISCIII
17:00-17:15	Closing and participants reviews	
	END OF DAY 2	

BU-ISCIII: Bioinformatics Unit, Instituto de Salud Carlos III, Spain
DTU: Technical University of Denmark, Denmark
FDA: Food and Drug Administration, USA
NTU: Nanyang Technololgical Univerity