GENOMIC EPIDEMIOLOGY — DAY 4			
Time	**Activity Description**	**Intended Learning Outcomes** *After completion, trainees will (be able to):*	**Relevance** *Why this is important for you as:*
1400-1530	Molecular epidemiology & transmission (Martin Maiden)	Understand the principles of molecular epidemiology, disease transmission, and techniques for outbreak detection and investigation Being able to interpret molecular markers within microbial populations to understand transmission dynamics and population diversity Gain insights into surveillance systems and their importance for tracking epidemics, and how genetic data can support outbreak investigation	**Bioinformaticians** will learn how to support epidemiological investigation through their knowledge on genomic data interpretation, in particular on possible transmission inferred through phylogenetic methods and gene-by-gene approaches. **Microbiologists** will learn to combine their knowledge about molecular markers with epidemiology to detect and investigate outbreaks. **Epidemiologists** will leverage molecular epidemiology principles for outbreak detection and surveillance, working closely with bioinformaticians and microbiologists to identify transmission patterns and implement control measures during disease outbreaks.

Details

Molecular epidemiology and transmission

The course on "Molecular Epidemiology and Transmission Analysis" provides participants with comprehensive training in molecular epidemiology principles and techniques for outbreak detection, surveillance, and transmission analysis. Participants will gain insights into surveillance systems and how these can help detect outbreaks and track epidemics. Additionally, the course will cover the interpretation of intra-patient diversity and transmission patterns to understand disease spread and inform public health interventions. By the end of the course, participants will have acquired the skills necessary to apply molecular epidemiology techniques effectively and address public health challenges related to outbreak detection, surveillance, and transmission analysis.