

**Presentation title:** From mutation to macroevolution

**Abstract:**

Molecular phylogenetics allows us to use the patterns of changes in the genomes of different species to reconstruct evolutionary history. This has revolutionized studies of macroevolution, which focus on the patterns and processes of variation in biodiversity over time, space or lineages. But molecular phylogenies are not just a useful tool in macroevolution, they are also a way of thinking about the connection between change at the genomic level and evolution at the level of global biodiversity. I will use a number of examples to explore how molecular phylogenetic analysis has the potential to overcome the hierarchical distinction between macroevolution and microevolution by allowing us to consider us to consider genome-level, population-level and lineage-level patterns in a single analysis.