WTDTP Projects for September 2023

 Project Reference: T12/56

 Project Title: **Understanding asthma through population-scale long-read sequencing of diverse genomes**

 Theme(s): Cross-Theme Project - Themes 1 and 2

 Primary Supervisor: Dr Ed Hollox (University of Leicester)

 Secondary Supervisor(s): Dr Katherine Fawcett (University of Leicester)
Dr Samuel Tallman (Genomics England Limited)

 Department: Genetics and Genome Biology

Project Summary: Understanding the diversity of human genomes is important for understanding the contribution of genetic variation to disease, including asthma. Despite much progress in understanding, we have very limited understanding in two areas – genomes from those of non-European ancestry, and complex genetic structural variation, such as variation in gene copy number variation. Using long read genome sequencing, two large projects (1000 Genomes Project and Genomics England) are beginning to address this. This project will use available long read sequences from under-represented individuals for genome structural variation. The project will focus on the role of these structural variants in respiratory disease, in particular asthma, but there will be opportunities to answer more fundamental biological questions on the population genetics of structural variants as well.