Biotechnology and Biological Sciences Research Council
Engineering and Physical Sciences Research Council

EBNet Placement Support,
Tararag Pincam
University of Southampton
(PL202003)

EBNet Environmental Biotechnology

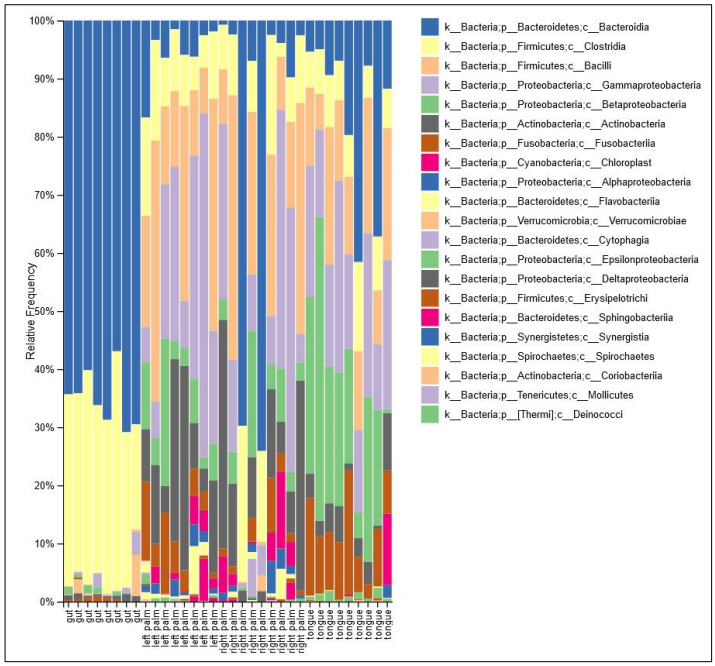
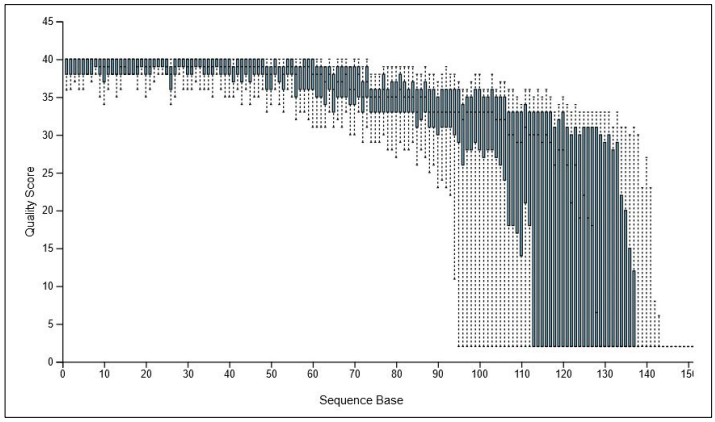
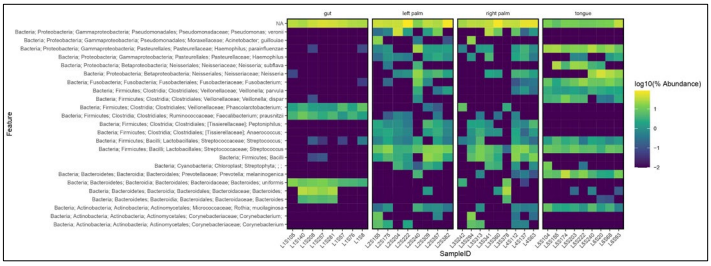
Bioinformatic skills for microbial community analysis

- Online training from the University of York

This training really helps me to conduct bioinformatics analysis, to achieve my PhD research objective at a high level and benefit me for my future research and career development in environmental biotechnology!
- Tararag Pincam, University of Southampton

This training on bioinformatics for microbial community analysis was provided by the research group of Prof James Chong, Department of Biology, University of York, with funding from an EBNet placement award. It was conducted in a virtual form via Slack and Teams. T16S DNA sequences were analysed by using software QIIME2 and R program.

This placement was very important for my PhD research project in understanding the link between process for recovery of volatile fatty acids (VFAs) and phosphorus from sewage sludge and microbial community. Specifically, this training allowed me to gain skills on carrying out bioinformatics analysis to obtain alpha diversity within a sample and beta diversity or dissimilarities between sample groups. Also, it helped me to be able to visualize high-dimensional data and assess the roles of specific OTUs in the microbial community.

The training did not only help me to gain a good basis in bioinformatics but also further developed my skills and understanding of microbial community analysis in different aspects to further my understanding of the relationship between microbial communities and environmental conditions. This allowed me to achieve my PhD research objective at a high level and provided significant information for the optimization of fermentation processes and the manipulation of the microbial community to achieve the maximum outcome of the targeted products i.e., Volatile Fatty Acids (VFAs) and phosphorus.

Examples of placement training material/results: