

Case Study Plastisphere

Project Topic: Microbial degradation of polymeric substances

Project Partner: GFZ Deutsches Geoforschungszentrum Potsdam

Location: Landfill in Brandenburg

Sample type: plastic polluted soil

Target Molecule: DNA

Laboratory Analysis:

Culturing and isolation, full length 16S rRNA and metagenomic sequencing using Oxford Nanopore long read Technology

Bioinformatic Analysis:

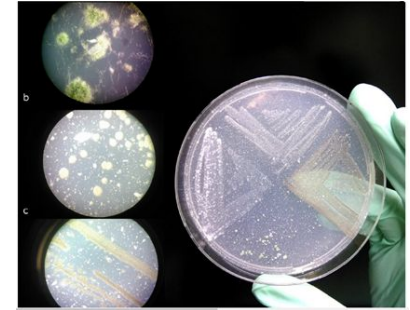
Basecalling, taxonomic classification, assembly and binning, genome quality assessment, annotation, metabolic pathway reconstruction

Summary:

Six different bacterial strains were isolated from plastic polluted landfill soil, taxonomically classified and their genomes sequenced and reconstructed. Functional Annotation allowed the discovery of specific genes involved in polyethylene degradation and the reconstruction of a potential polyethylene (PE) degradation pathway.

More details:

<https://doi.org/10.3390/microorganisms9091876>



Nocardioides spec. nov.

