AstrobiologyOU

The Open University

Anaerobic Microbiology Facility and Characterisation of Novel Microorganisms

Anaerobic culture of diverse samples, studies of microbial analogues of potential life and biotechnological applications.

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Our laboratories have the capabilities to simulate a range of extraterrestrial environments. The unique set of facilities are supported by an experienced and highly qualified technical team.

We are seeking to collaborate with commercial and development partners through contract research, consultancy or Knowledge Transfer Partnerships.

The anaerobic microbiology facility consists of anaerobic chambers, a gas sparging station, several anaerobic headspace stations and an automated microbial growth curve capability. The techniques used enable the isolation of microbes from extreme environments and the exploration of their characteristics.

Benefits:

- Designated clean and 'dirty' facilities for sample preparation
- Extraction of nucleic acids for downstream applications
- Additional characterisation of novel isolates
- Researchers with a wealth of experience and expertise
- A technical team to support the designing and running of your experiments

Key features:

- H_2/CO_2 gas mix (80% H2)
- CO_2/N_2 gas mix (2-95% CO2)
- Other gas recipes can be used
- Eliminate oxygen to 0-5 ppm
- An Anoxomat® III system
- Growth curves facility from room temperature to 80 °C
- Cultures can be shaken or static

Applications:

- Waste management (e.g. anaerobic digestion)
- Food & Beverage microbiology
- Medical microbiology
- Microbial analogues of astrobiological importance
- Life in extreme environments
- Early life on Earth

AstrobiologyOU is a multidisciplinary research group that is working collaboratively to address the scientific, governance and ethical challenges associated with the advancement of astrobiology and related space exploration missions; whilst ensuring societal benefits and sustainability.

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