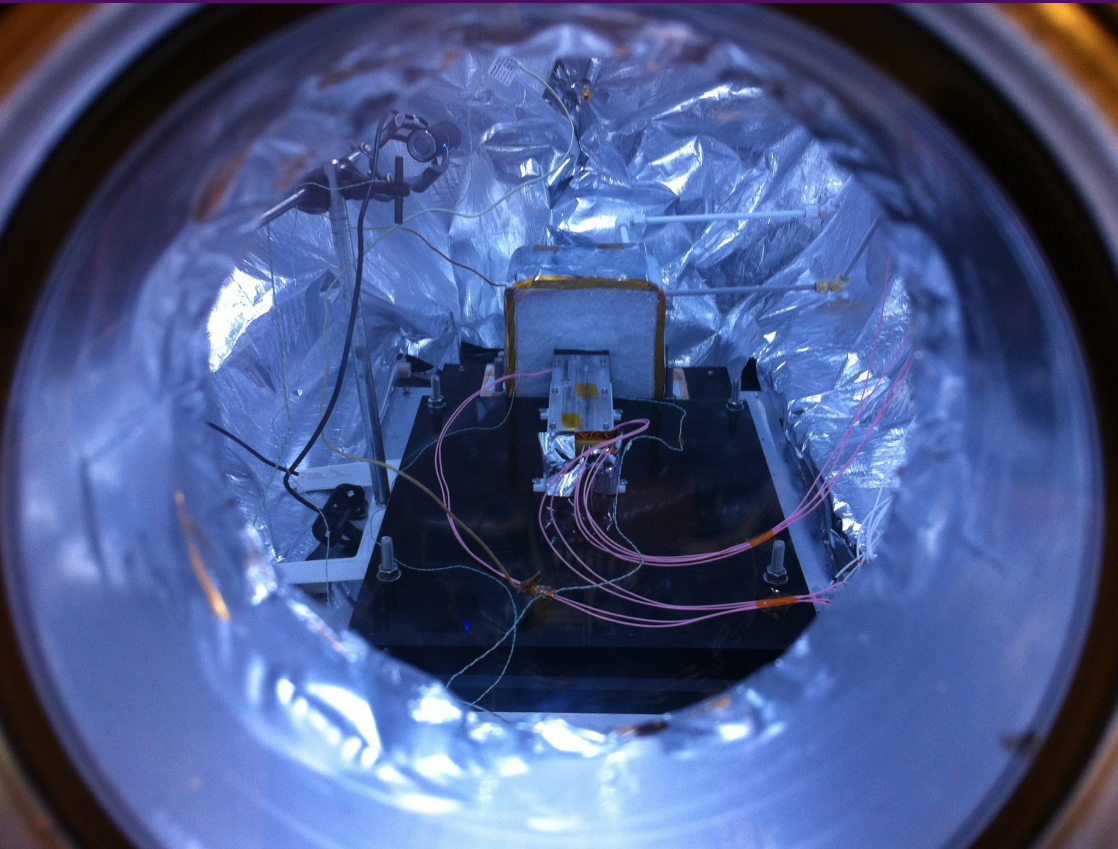


# Environmental Simulation Chambers for Aerospace and Engineering Applications

Simulate the environment of deep space under a range of  
temperatures and pressures



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 environmental simulation facilities host four versatile chambers that can be used for scientific and engineering applications.

### **Key features:**

Large Mars Chamber:

- 1.8 m x 0.9 m (l x dia)
- -70°C to -180°C
- 0.8 mbar to 1000 mbar

Small Mars Chamber:

- 1.2 m x 0.7 m (l x dia)
- -70°C to +100°C
- 1 mbar to 1000 mbar

Large Icy Body Chamber:

- 0.8 m x 0.7 m (h x dia)
- -100°C to +200°C
- $10^{-5}$  mbar to 1000 mbar

Small Icy Body Chamber

- 0.15 m x 0.14 m (h x dia)
- -100°C to +200°C
- $10^{-5}$  mbar to 1000 mbar

### **Benefits:**

All chambers have:

- Automated temperature control
- UV illumination
- Cryogenic cooling

Additional Large Mars Chamber benefits:

- High-definition video cameras
- High-speed video cameras
- Photogrammetric camera array
- Accommodate regolith simulants, water, brines and CO<sub>2</sub> ice

### **Applications:**

- Deep space simulation
- Dry heat microbial reduction
- Instrument qualification and testing
- Planetary science
- Materials science
- Vacuum research

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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