

HENRY  
ROYCE  
INSTITUTE



UNIVERSITY OF  
OXFORD

**INERT SAMPLE  
PREPARATION AND  
CHARACTERISATION  
PLATFORM**

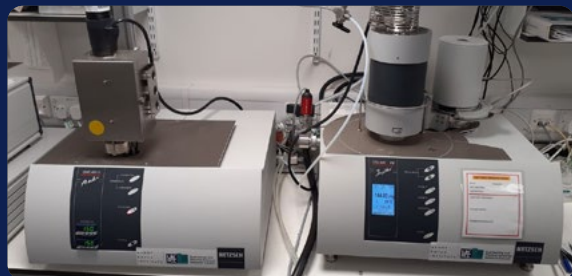
**ROYCE**

The Inert Sample Preparation and Characterisation Technology Platform at the University of Oxford is home to unique capabilities for the handling and study of air sensitive energy materials. The facility is designed to enable seamless transfer under continuous inert atmosphere from preparation stage through to a range of characterisation techniques, eliminating the risk of contamination from ambient moisture, CO<sub>2</sub> or O<sub>2</sub>.



### INERT PREPARATION

- Pouch cell and coin cell fabrication
- Electrode mixing, casting and calendaring
- Inert ceramic hot pressing & sintering
- Inert high energy ball-milling
- Sectioning with PFIB, nano-SIMS
- Inert electrochemical cell fabrication
- Inert Physical Vapour Deposition (PVD)



### BULK CHARACTERISATION

- Thermogravimetric Analysis (TGA-MS)
- Raman Spectrometer
- Dynamic Light Scattering (DLS) Analyser
- Inert Pico-indenter
- Nano-indenter
- Inert X-ray Diffraction (XRD)

### DCCEM

Electron  
Microscopy  
Suite

### ATOM PROBE

3D atom-by-  
atom Imaging  
Suite

# CENTRE FOR ENERGY MATERIALS RESEARCH

### PROCESSING

Pilot  
Manufacturing  
Facility

### OMCS

Materials  
Characterisation  
Service

### ELECTROCHEMICAL STABILITY

- Electrochemical Impedance Spectroscopy (EIS)
- Environmental test chambers
- Inert temperature-controlled cycling chambers
- Electrochemical Testing Suite
- Inert Nuclear Magnetic Resonance (NMR)
- Gas-Chromatography Mass Spectrometry (GC-MS)



### SURFACE CHARACTERISATION

- Atomic Force Microscope (AFM)
- X-ray Photoelectron Spectroscopy (XPS)





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