Advanced Imaging of Materials Facility (AIM)
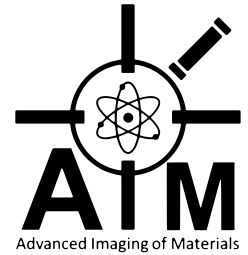
Swansea University
Prifysgol Abertawe

College of Engineering
Coleg Peirianneg

AIM
Advanced Imaging of Materials

A unique advanced correlative imaging and analysis facility bringing together electron, x-ray and optical imaging and characterisation techniques with a new level of correlative capability.

Summary

The Advanced Imaging of Materials (AIM) Facility is a £10M EPSRC / Welsh Government funded integrated scientific imaging and characterisation facility. Capable of providing imaging and analytical results spanning scales from centimetres to Angstroms with multiple modalities.

The Facility is also linked to large-scale private and publicly funded facilities such as the UK's national synchrotron – Diamond Light Source and ISIS Neutron & Muon Source – that can extend this capability (in both directions) to meters and picometers.

We are a collaborative and interdisciplinary facility within the College of Engineering, supporting academic and industrial research: working across engineering, biological materials, life and earth sciences, and supporting engineering, manufacturing, healthcare, and heritage sectors, as well as acting as a bridge for industry to the STFC Facilities.
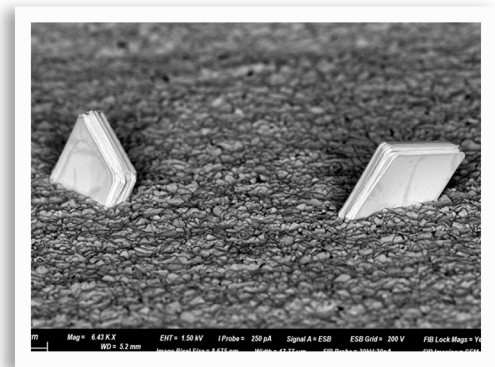
The Facility's capabilities are accessible to industry directly as well as through longer term research partnerships. We have performed analysis regularly for quality control, production factors, and product development. Companies ranging from multi-nationals (E.g. Tata Steel, Rolls Royce, Airbus, Sandvik Osprey, Vale, Gestamp, Morgan Advanced Materials through to small 'start-ups'.

Capabilities

- Transmission electron microscopy (TEM)
- Scanning electron microscopy (SEM)
- Focussed ion beam (FIB) nano-fabrication and 3D analysis
- X-ray Diffraction (XRD)
- X-ray Photoelectron Spectroscopy (XPS)
- EM analytical techniques EDS, EBSD, WDS and EELS
- Micro and nano X-ray computed tomography (microCT)

Funders

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

UKRI
Engineering and Physical Sciences Research Council

UNDEB EWROPEAIDD EUROPEAN UNION
Llywodraeth Cymru Welsh Government
Cronfa Datblygu Rhanbarthol Ewrop European Regional Development Fund

UNDEB EWROPEAIDD EUROPEAN UNION
Llywodraeth Cymru Welsh Government
Cronfa Gymdeithasol Ewrop European Social Fund

Find out more

Website: www.swansea.ac.uk/engineering/aim/
Twitter: @aimswansea
Email: materials@swansea.ac.uk