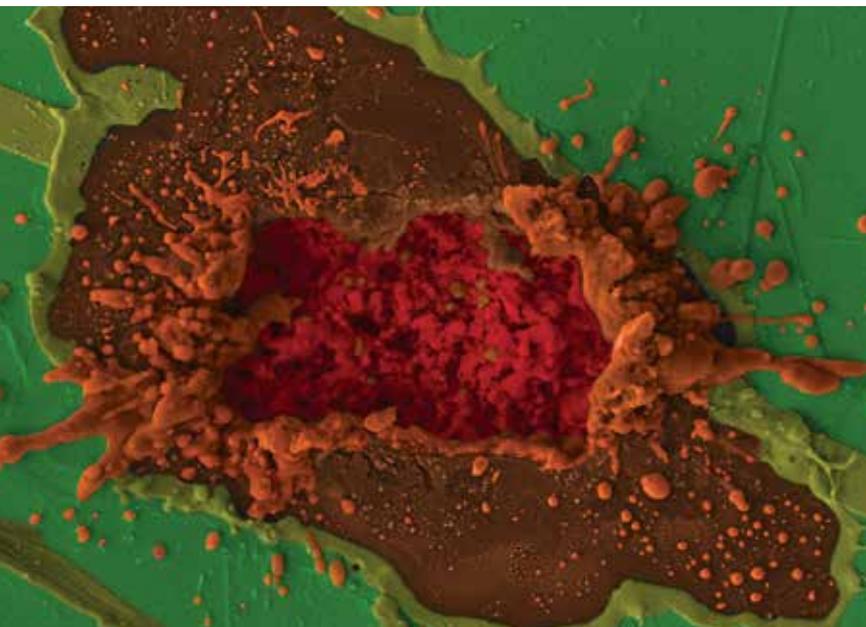


Advanced Materials and BioEngineering Research (AMBER)

AMBER provides a partnership between world-class materials science researchers and industry.

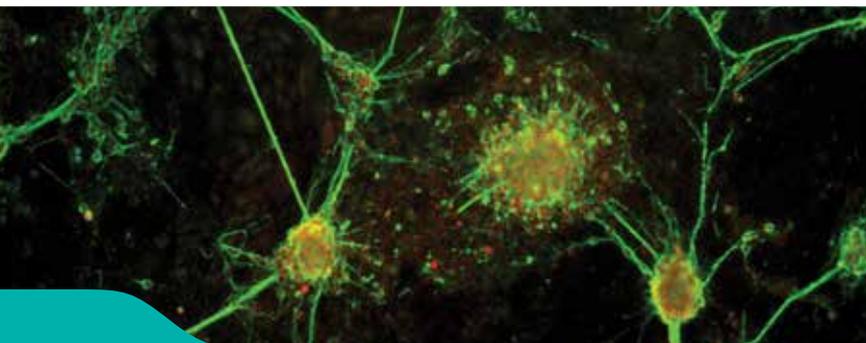
AMBER is at the forefront of translating leading science into new discoveries and devices for the ICT, medical devices, pharmaceutical and industrial technology sectors.



With €85 million in expected funding over six years from Science Foundation Ireland, industry and international sources, the centre combines fundamental and applied research activity within a vibrant culture of industrial engagement and commercialisation.

Research Areas

- › 2D materials and composites
- › Biomaterials
- › Medical devices
- › Semiconductor and memory devices
- › Polymer nanocomposites and membranes



Research programmes

AMBER's 120 researchers are tackling significant industrial challenges. Their work includes the development of:

- › Novel device architectures and magnetic memory applications
- › Thermoelectric and energy harvesting devices
- › Mechanically, electrically and optically enhanced polymers
- › Surface property modification using nanopatterns
- › Membranes and porous media
- › Food, pharmaceutical packaging and sensing applications
- › Advanced materials and device modelling
- › Drug encapsulation and delivery systems
- › Regenerative tissue engineering

Facilities

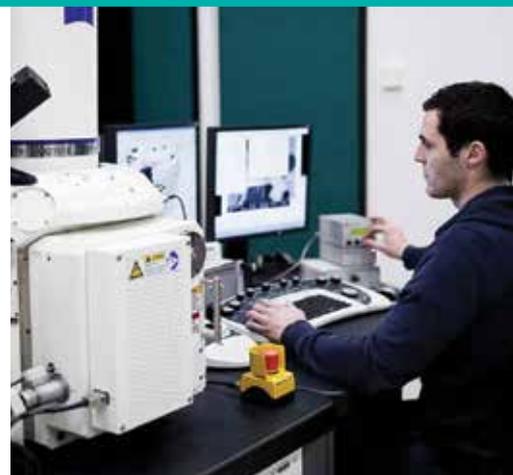
- › Advanced microscopy and nanofabrication lab
- › Polymer development and characterisation lab
- › Photonics lab
- › Clean-room facilities
- › Metrology/spectroscopy
- › Additive manufacturing

Industry and commercialisation

Central to AMBER's research remit are the collaborative projects it carries out with diverse industry partners. AMBER is creating new knowledge and intellectual property. It is transferring that knowledge to industry through licensing agreements, industrial staff exchanges and spin-outs.

Industry partners include:

- › Adama Innovations
- › Alcon
- › Amebis Ltd
- › Bioplastech
- › DePuy Synthes
- › Diageo
- › Eblana Photonics
- › Glanbia
- › Glantreo
- › Innalabs
- › Innovative Polymer Compounds (IPC) Ltd
- › Integra Lifesciences
- › Intel
- › Medtronic
- › Merck Millipore
- › Mergon Group
- › Nokia Bell Labs
- › SABmiller Plc
- › Sigmoid Pharma
- › Solvotrin Therapeutics
- › Western Digital



Education and Public Engagement:

AMBER develops training and educational programmes which impact all levels of the formal education system from primary school to fourth level. As an interdisciplinary and inter-institutional centre, AMBER ensures the incorporation of interdisciplinary research programmes and training elements. In addition, AMBER ensures graduates and postgraduates have a combination of technical aptitude and a range of generic and transferable skills. AMBER is also committed to the development of novel outreach programmes which aim to stimulate discussion on the role of science in defining how we live our lives.

Examples of AMBER's schools' programme:

- › Exploring Materials, a Transition Year work experience programme
- › Magical Materials, a week-long continuous professional development (CPD) course for primary school teachers
- › NanoWOW, a resource pack for primary school teachers to introduce nanotechnology and materials science to 5th and 6th classes
- › Nano in my Life, a resource pack for Transition Year teachers to introduce nanoscience to their pupils

Key Contacts

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Professor Michael Morris is Professor of Surface and Interface Engineering at Trinity College Dublin. He is a founder of Glantreo, a SME spin out for Cork, and maintains links in developing novel stationary phase materials for chromatography applications. His work includes collaboration on the development of new technology for the manufacture of logic/memory circuitry. He also has several engagements with other companies based on his experience of surface engineering and materials science.

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