

Oxford Centre for Applied Superconductivity



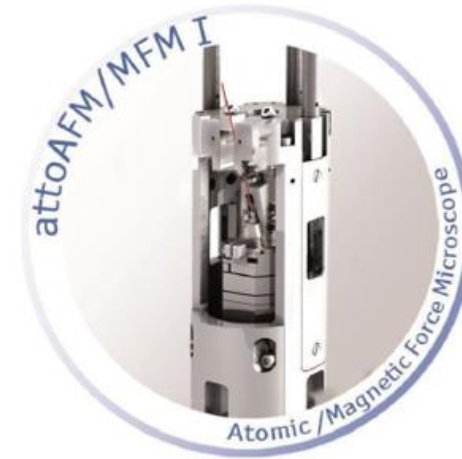
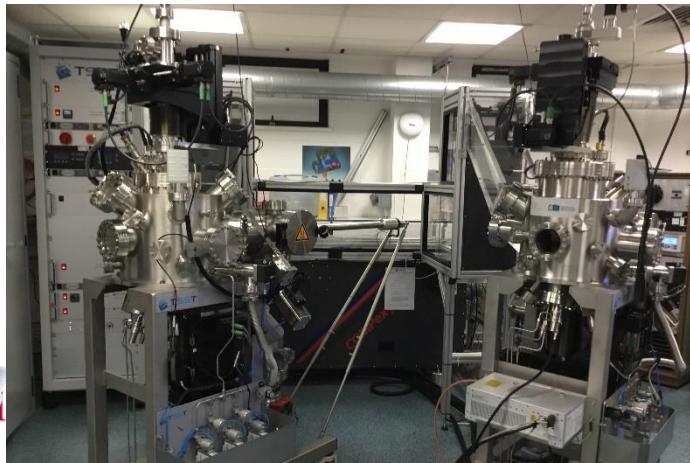
£5m Centre to accelerate innovation in emerging materials and technology to support and expand the commercial exploitation of superconductivity in Oxfordshire.

The Speller/Grovenor group specializes in:

- Understanding the relationships between properties, microstructure and processing of superconductors.
- Developing and applying advanced microstructural characterization techniques to answer challenging scientific questions of technological relevance.

Studentships working on industry-focused projects:

- Siemens Healthineers
- Oxford Instruments
- UK Atomic Energy Authority
- Tokamak Energy
- Epoch wires



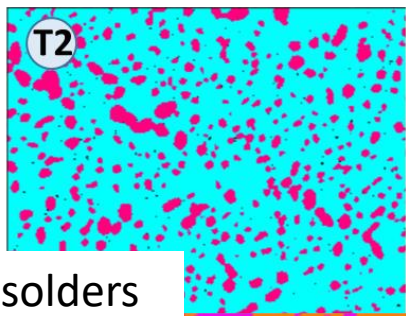
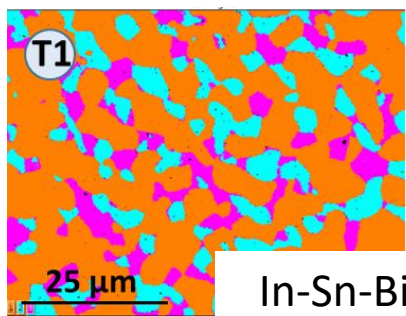


Superconducting joints

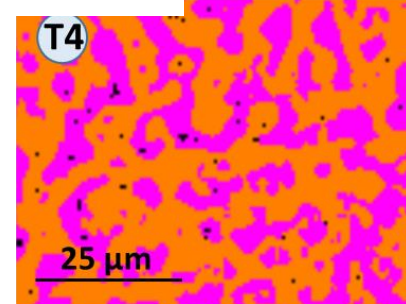
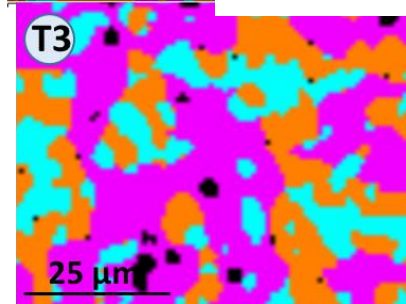
We are working on all kinds of joints between superconducting materials, including HTS-LTS joints



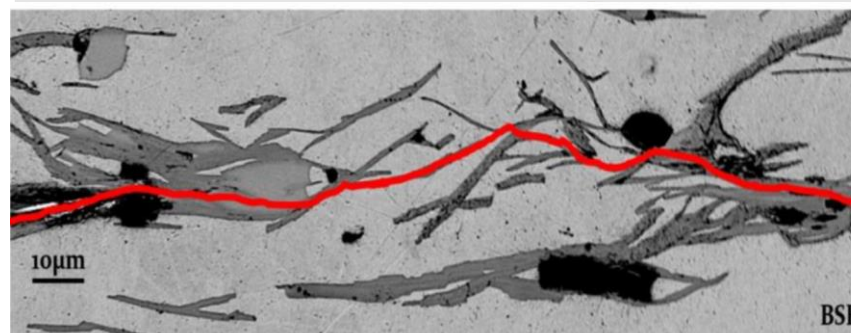
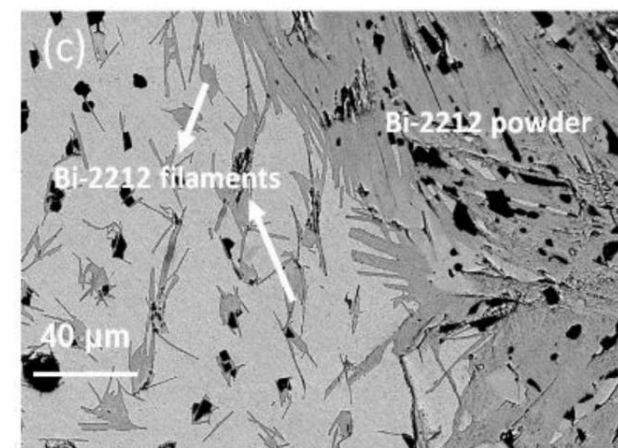
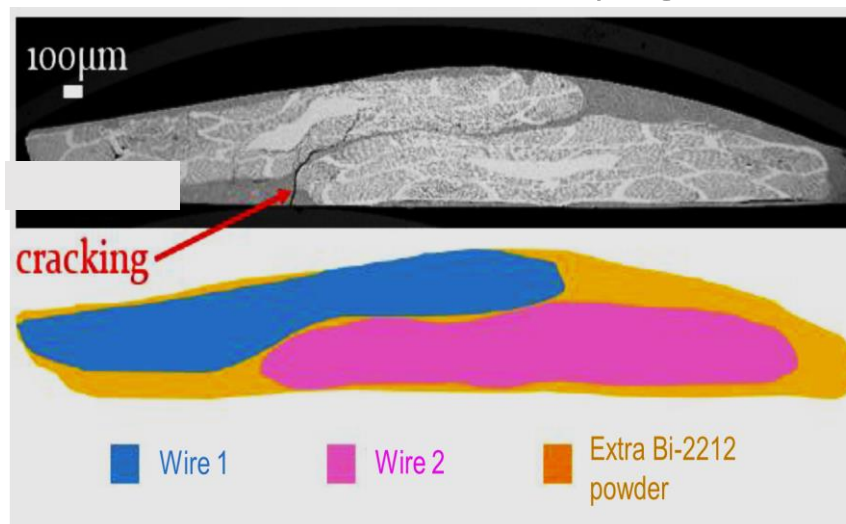
Novel lead-free jointing strategies for conventional low-temperature superconductors



In-Sn-Bi solders



Joints between multifilamentary $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{10}$ HTS wires carrying >500 A in 14 T



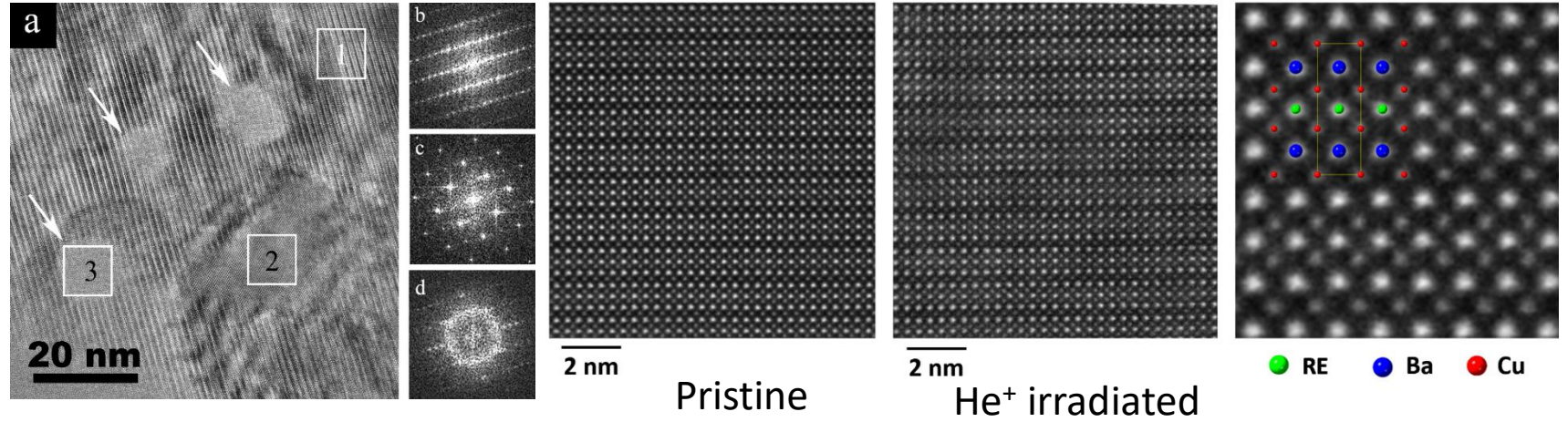
Understanding radiation damage in high temperature superconductors



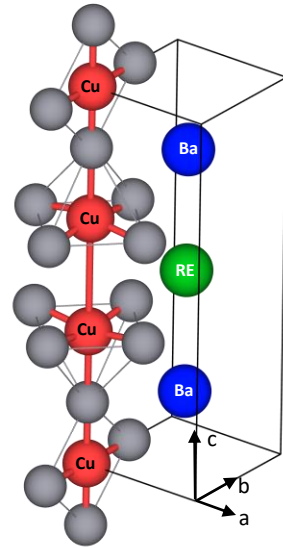
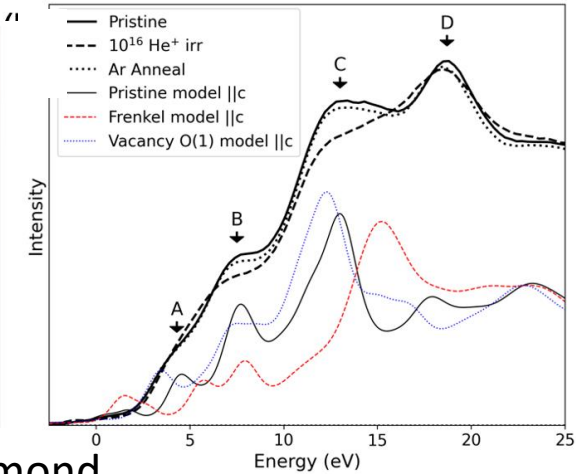
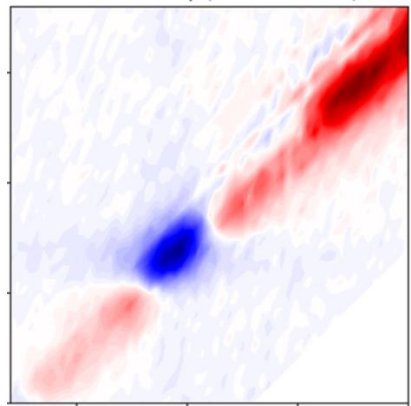
HTS magnets are an enabling technology for compact fusion reactors



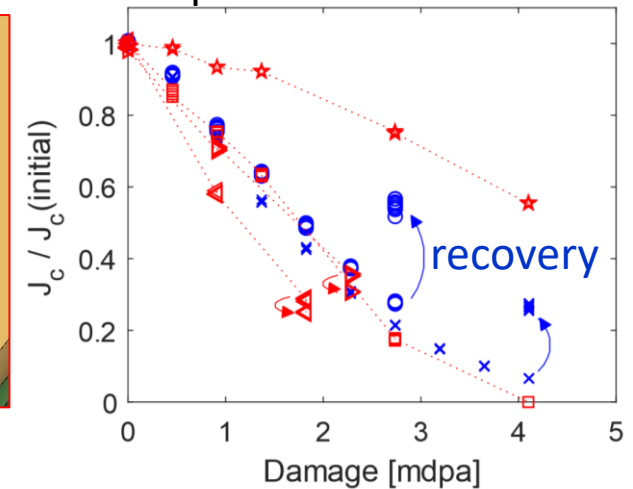
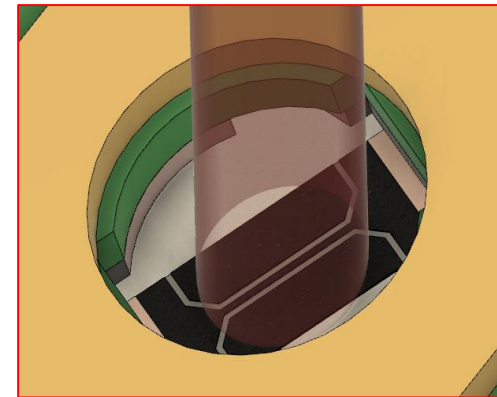
Transmission electron microscopy studies of radiation damage processes



X-ray absorption spectroscopy and DFT modelling



In situ cold irradiation experiments



I20 beamline at Diamond

Surrey Ion Beam Centre