The University of Nottingham

Materials

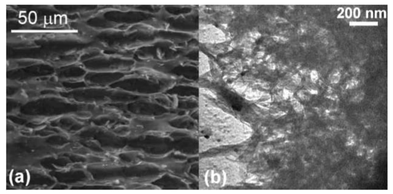
Project Part-Financed by the European Union

European Regional Development Fund

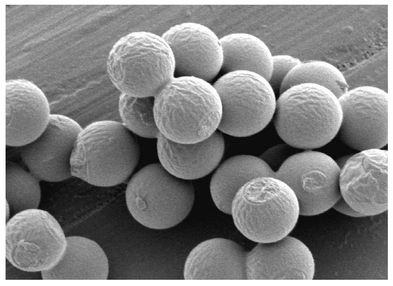
Overview of Capabilities

Due to an ever-increasing demand for new materials and the improvement of existing technologies, materials research is an extremely dynamic field. Areas of expertise in the School of Chemistry include:

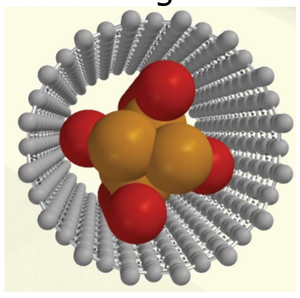
- Aerogels



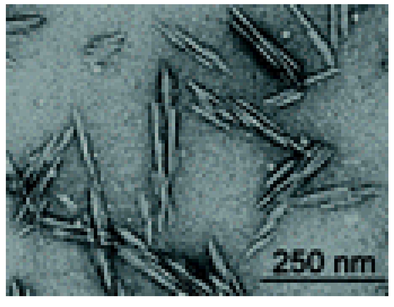
- Polymers



- Carbon nanotubes and scaffolding



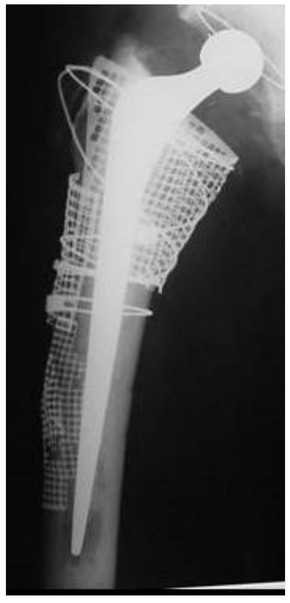
- Catalysts
- Nanomaterials



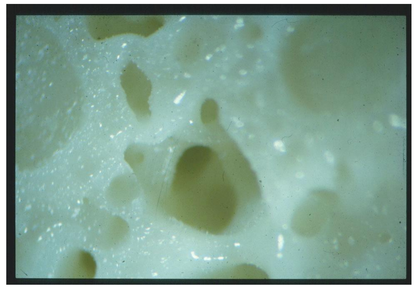
Relevance to Industry (SMEs)

These materials have many applications in industry including:

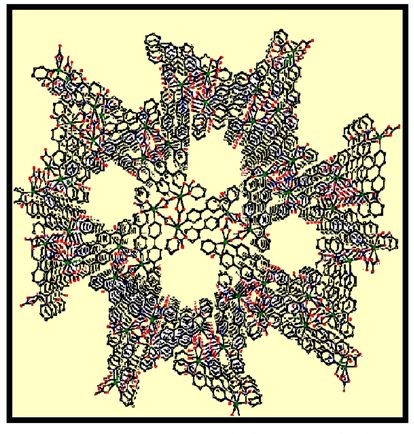
- Gas storage, absorption and extraction
- Drug delivery devices
- Tissue engineering scaffolding
- Photonic materials
- Unique polymer blends
- Insulation
- Reduction of water pollution
- Electromechanics
- Data storage



Impaction Grafting for Revision Hip Arthroplasty



Polymers for Bone Tissue Engineering

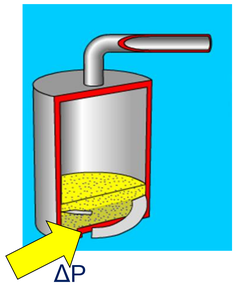


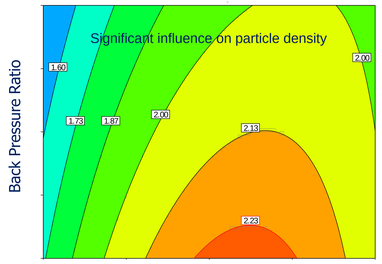
Metal Organic Framework (MOF) with the "World Record" for Hydrogen Storage

Interaction with SMEs

CRITICAL PHARMACEUTICALS

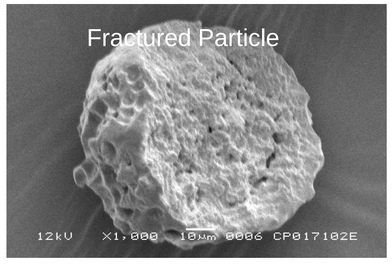
Critical Pharmaceuticals are developing sustained release drug delivery devices for subcutaneous injection. Polymeric microparticles containing very potent protein based drugs are sprayed from a supercritical fluid apparatus.

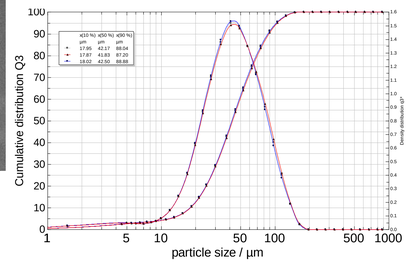




Lactic acid content of the copolymer

Using techniques and apparatus at the University of Nottingham we have analysed the size and morphology of the microparticles and also begun to gain some understanding of the impact of process parameters and polymer type.





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For further details please contact Dr Freya Hine (freya.hine@nottingham.ac.uk or 0115 84 68078)

Healthcare and Bioscience iNet

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