The purpose of the fellowship is to provide a research opportunity for a person with no more than three years post-doctoral experience taking career breaks into account. Projects supported in recent years include the following.

Fellowships

Department of Biochemistry
2001 Weak protein binding in the photosynthetic electron transfer chain

Department of Biotechnology
2011 Spectroscopy of biopolymer/carbon nanotube complexes in algal cells

Department of Chemistry
2000 Electrochemical promotion for controlling chiral surface chemistry and catalysis
Synthesis and characterisation of novel porous solids
Crystal engineering of novel hydrogen-bonded and metal-organic frameworks
Solid-state NMR studies of the host-guest systems
Solid-state NMR studies of mesoporous catalysts modified with mixed-metal clusters
Methane Partial Oxidation on Pt{110}(1X2) A Density Functional Study
Surfactant Coated Semi-Conductor Nanoparticles
Towards in situ LEED
Smart Catalytic Devices for Next-Generation Environmental Technologies
Non-noble electrocatalysts for the cathodic reduction of oxygen in acidic solutions
Helium-atom Optics for Surface Studies
Interaction of an insecticidal protein with a hydrophobic surface
Modelling of Diffusion and Aggregation in Colloids
2008 Energy landscape approach to the self-assembly of anisotropic colloidal building blocks
2013 In situ X-ray scattering and spectroscopy for the characterisation of electrode-electrolyte interfaces in electrochemical systems
2014 Combined theoretical and experimental study of the electrode/electrolyte interface in electrochemical systems
2015 Signal amplification by intelligent colloidal particles
2016 Quantitative Studies of Biological Colloids through Microfluidic Approaches
2018 Exploring the physical properties of phase boundaries and their effect on protein aggregation and propagation using confined volume approaches

Department of Engineering
2003 Growth of carbon nanotubes on nickel surfaces
2005 Development of methodologies for the controlled assembly, selection and integration of nanotubes and nanowires in order to obtain large area patterns for different applications
2006 Toxicity of intra-cellular nanoparticles
2014 Advanced Nano-Engineered X-ray Sources

Department of Materials Science
2002 Investigating the synthesis and applications of composite materials made by coating carbon nanotubes with conducting polymers
2007 Dislocation elimination in thin films of GaN and related materials
Department of Pathology
2005 The application of biophysical, enzymological and crystallographic methods to understanding the actions of SopB (a virulence protein active in Salmonella bacteria) and related virulence factors acting on host cell membranes

Department of Physics
2001 Close coupled scattering calculations to explore the fundamental interaction of helium with real surfaces
2002 Developing methods of statistical-geometrical characterisation of packing of particles
2004 Optical investigation of liquid monolayers: biological films
2010 Exciton dissociation in organic polymers
2011 Theory of complex processes in soft and biological matter
2013 Multi-component colloidal gels: dynamics, structure and photonic properties
2017 Singlet Exciton Fission based Luminescent Solar Concentrators

Institute of Theoretical Geophysics (Department of Applied Mathematics and Theoretical Physics)
2009 Packing at Liquid Interfaces: From Duckweed to Interfacial Rheology

Department of Applied Mathematics and Theoretical Physics
2012 Lipid membrane fluid mechanics and cytoskeleton self-assembly
2017 Nonequilibrium statistical mechanics of active colloids

Research Associates (no longer supported)

Department of Biochemistry
2002 Membrane pore architecture of an insecticidal protein from Bacillus thuringiensis

Department of Chemical Engineering
2002 Modelling of Diffusion and Aggregation in Colloids

Studentships

Department of Chemical Engineering
2006 Surface functionalisation to create ultrasound destabilised colloidal suspensions and their use for therapy and medical imaging
2018 Stratification in Drying Films

Department of Chemistry
2001 Heterogeneous epoxidation of alkenes catalysed by copper and silver
2001 Sum Frequency Generation from surfactant coated indium phosphide nanoparticles
2004 New directions in enantioselective heterogeneous catalysis
2005 Chemical Sensing at Surfaces using Evanescent-Waveguide Sensors
2011 Reflection from metal/liquid interfaces
2012 Modern Energy Conversion with Semiconductor Colloids in a Primordial Soup
2015 NMR Studies of a Novel Class of Two-Dimensional Electrode Materials for Batteries and Supercapacitors
2016 Designing new nanocarrier systems for more efficient photocatalysis

Department of Materials Science and Metallurgy
2008 Electronic properties of hybrid inorganic-organic framework materials
Department of Physics
2003 Ultrafast photophysics in Semiconductor nanocrystals
2004 A new experimental instrument for surface chemistry and physics
2007 Energy transfer mechanisms at polymer-dopant and polymer-polymer surfaces
2009 Characterisation of DNA coated colloids: An investigation of controlled nano-assembly
2013 Smart biodegradable DNA origami nanopores
2014 Cell adhesion and proliferation on active substrates
2017 Charge separation at perovskite/singlet fission material interfaces