

The table below gives examples of possible research areas available under the Rutherford International Fellowship Programme. The list is meant to be indicative but not exclusive, and projects in other areas may be possible if supported by an STFC staff member as supervisor. Contact personnel listed are not a complete list, but provide examples of possible contacts who could act as supervisors to Fellows.

Science or Technology area	Relevant department	Examples of possible contact personnel
Condensed matter physics , including magnetism (pure and applied) and superconductivity, band theory	ISIS, Diamond, CLF, SCD	Prof Toby Perring; Prof Sean Langridge; Dr Adrian Hillier; Dr Francis Pratt; Dr Devashibhai Adroja; Dr Helen Walker, Dr Ross Stewart, Dr Martin Leuders, Dr Cephise Cacho Dr Jorg Zegenhagen, Prof Sarnjeet Dhesi, Dr Moritz Hoesch, Dr Paul Steadman, Dr Chris Nicklin
Materials studies , including hydrogen storage, fuel cells, ionic conductors and battery materials, semiconductors, multiferroics, nano-structured materials, radiation hard composites, photocathodes	ISIS, Diamond, SCD, CLF, Technology Dept.	Prof Bill David; Prof Felix Fernandez-Alonso; Dr Steve Hull; Dr Dave Keen; Dr Martin Jones, Dr Samantha Callear, Dr Barbara Montanari, Dr Andy Ward, Dr Paul Seller, Dr Simon Canfer, Prof Andy Dent, Dr Chiu Tang, Dr Tim Noakes
Chemistry , including catalysis, microemulsions and micelles, liquid and solution structures, complex fluids, disordered materials, vibrational spectroscopy, environmental chemistry, computational chemistry	ISIS, Diamond, SCD, CLF	Prof Stewart Parker, Prof Felix Fernandez-Alonso, Prof Alan Soper, Dr Daniel Bowron, Dr Sarah Rogers, Dr Paul Sherwood, Dr Ilian Todorov, Prof Mike Towrie, Prof Tony Parker, Prof Pavel Matousek, Dr Sofia Diaz-Moreno, Prof Fred Mosselmanns
Soft matter and biology , including polymers, surfactants, biochemical systems, interface studies, pharmaceuticals, protein structures, biomolecular dynamics, biosystems imaging, computational biology	ISIS, Diamond, CLF, SCD	Dr John Webster, Dr Ann Terry, Dr Arwel Hughes, Dr Victoria Garcia-Sakai, Dr Luke Clifton, Dr Mark Telling, Prof Mike Towrie, Dr Marisa Martin-Fernandez, Dr Martin Wynn, Prof Stan Botchway, Dr David Clarke, Dr Andy Ward, Dr Nick Terrill, Prof Dave Stuart, Dr Martin Walsh
Engineering , including stress-strain measurements and tomography, computational engineering	ISIS, Diamond, SCD	Dr Shu Yan Zhang, Dr Joe Kelleher, Dr Winfried Kockelmann, Dr. Kevin Knight, Dr Dave Emerson, Dr Thomas Connolley
Geology , including earth and planetary mineral structures	ISIS, Diamond	Dr Kevin Knight
Radiation effects in microelectronics	ISIS, Technology Dept.	Dr Chris Frost, Dr Marcus French, Dr Renato Turchetta, Dr Paul Seller
Archaeometry	ISIS, Diamond	Dr Winfried Kockelmann
Technology development for neutron and x-ray science , including detectors and data acquisition electronics	ISIS, Diamond, Technology Dept.	Dr Marcus French, Prof John Simpson
Fusion energy using laser ignition	CLF	Prof Peter Norreys
Interactions of high intensity laser light with matter	CLF	Prof David Neely, Prof Peter Norreys, Prof Bob Bingham
Electron and ion acceleration by light waves	CLF	Prof David Neely, Dr Alex Robinson, Dr Rajeev Pattahil, Dr Dan Symes
Plasma physics; atomic and molecular physics	CLF, SCD	Prof David Neely, Dr Rajeev Pattahil, Dr Alex Robinson, Dr James Green; Dr Emma Springate, Dr Barbara Montanari
Accelerator science and technology , including electron, high power	ISIS, Diamond, ASTeC,	Prof Jim Clarke, Dr Chris Prior, Dr Shinji Machida, Alan Wheelhouse, Dr Ben

proton and ion accelerators, RF engineering, magnet design, free electron lasers, beam diagnostics, vacuum science, cryogenics design, photocathodes (experimental and simulation)	Particle Physics Dept.	Shepherd, Dr Neil Thompson, Dr Boris Militsyn, Dr Reza Valezedehe, Dr Yuri Saveliev, Dr Peter Williams, Dr Steve Jamison, Dr Neil Bliss, Shrikant Pattalwar, Prof Riccardo Bartolini, Dr Tim Noakes
Ultrafast metrology of particle beams and light pulses	ASTeC	Dr Seven Jamison,
Cryogenics and Magnet technology	Technology Dept., UKATC	Dr Anna Orłowska, Dr Martin Crook, Dr Tom Bradshaw
Imaging detectors and sensor materials	Technology Dept., UKATC	Dr Marcus French, Dr Renato Turchetta, Dr David Bogg, Dr John Simpson, Dr Gillian Wright, Dr Nicola Tartoni
LHC particle physics experiments including ATLAS, CMS, LHCb Detector development and data analysis	Particle Physics Dept.	Dr Stephen Haywood, Prof Claire Shepherd-Themistocleous, Dr Fergus Wilson
Detector systems for particle physics	Particle Physics Dept., Technology Dept.	Dr Marcus French, Dr Renato Turchetta, Dr Anna Orłowska, Prof Claire Shepherd-Themistocleous
Engineering, computing and data analysis for particle physics experiments	Particle Physics Dept.	Dr David Kelsey, Dr Rob Edgecock, Prof Claire Shepherd-Themistocleous, Prof W. Murray
Precision measurements for fundamental physics including neutrino oscillations, dark matter	Particle Physics Dept.	Dr Maurits Van der Grinten, Dr Sean Paling, Prof Alfons Weber
Technology for Space research , including electronics, detector systems, optics, software and e-science	RAL Space, Technology Dept.	Mr Kim Ward, Dr Nick Waltham, Dr Peter Allan, Dr Chris Mutlow, Prof Gillian Wright, Dr Marcus French, Dr Renato Turchetta, Dr Martin Crook
Design and testing of satellite instrumentation	RAL Space, Technology Dept.	Mr Kim Ward, Dr Nick Waltham, Dr Chris Mutlow, Prof Gillian Wright
Heliophysics including space weather, solar and solar-terrestrial physics	RAL Space	Prof Richard Harrison, Dr Chris Mutlow, Dr Malcolm Dunlop
Astronomy and astrophysics technology, including telescope instrumentation	UKATC, Technology Dept.	Prof Gillian Wright, Dr Chris Evans, Dr Wayne Holland, Dr Alan Bridger, Dr Pamela Klaassen
JWST/MIRI calibration and early science	UKATC	Prof Gillian Wright, Dr Alistair Glasse
Advanced research computing, numerical analysis, software engineering	SCD, CLF, UKATC, Hartree Centre	Dr Mike Ashworth, Dr Pete Oliver, Dr Jennifer Scott, Mrs Catherine Jones, Dr Andy Ward, Dr Alun Ashton, Dr Alan Bridger, Dr Xiaohu Guo
Big data computing including big data system optimisation and characterisation, data management strategies, streaming analytics	SCD	Dr Erica Yang, Dr Brian Matthews
Intelligent tomographic image analysis: segmentation, quantification, and visualisation for compute-intensive energy selective tomographic image analysis with machine learning techniques	SCD, ISIS	Dr Erica Yang, Dr Evgueni Ovtchinnikov, Dr Genoveva Burca, Dr Joe Kelleher