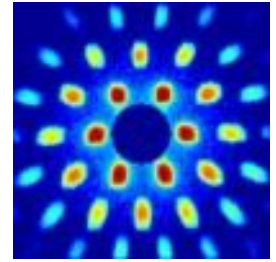




UNIVERSITY OF
BIRMINGHAM

Research Fellow



Magnetic flux line structures and phase transitions in unconventional and conventional superconductors

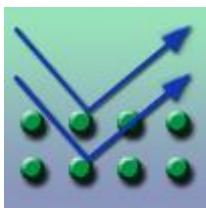
School of Physics and Astronomy, University of Birmingham

The EPSRC has recently awarded a £750,000 grant for 3 years to Prof. Ted Forgan and Dr. Elizabeth Blackburn, of the Condensed Matter Group, to provide equipment and running costs, and to fund staff to continue and extend our highly successful investigations of flux lines in superconductors. We are looking for a Research Fellow to take part in this project (33-36 month expected contract length).

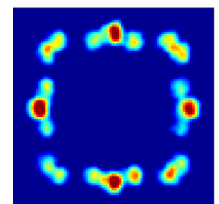
Flux lines are regarded as a mesoscopic laboratory for the study of the interplay of the effects of superconducting pairing states, electron spin susceptibility, nonlocal electrodynamics, thermal fluctuations, crystal and Fermi surface anisotropy, and pinning by quenched disorder. These issues all explore deep theoretical questions. Many techniques can play a part in these investigations, including macroscopic measurements, NMR, μ SR, STM and electron microscopy, but small-angle neutron scattering (SANS) is an extremely powerful technique for observations of the bulk. The present programme is to extend our research (which is producing high-profile publications) using both SANS at international neutron sources and high-resolution laboratory-based techniques. A major part of this grant is the purchase of a cryomagnet of novel design, to carry out small-angle neutron scattering studies at unprecedented high fields up to 17 T.

For more details visit:

<http://www.cm.ph.bham.ac.uk/cmsite05/grants/fluxlinesgrant/fluxlinesgrant.html>



You are welcome to contact if you have any questions:
Prof. E. M. (Ted) Forgan, email: e.m.forgan@bham.ac.uk,
or Dr. Elizabeth Blackburn, email: e.blackburn@bham.ac.uk



Apply online or download application documents at www.hr.bham.ac.uk/jobs. Please quote **Post ref 43373**.

*Closing date for applications is **Friday 24 April 2009***

You will have a PhD (and maybe also postdoctoral experience) in Condensed Matter and/or Large Facility work. Specialist knowledge of superconductivity, magnetism or small angle neutron scattering, while not essential, would be desirable. You will have a high level of initiative, and the ability to liaise effectively with technical staff and other members of the research programme, as well as with external academic and industrial partners.

For a broader review of the research activities inside the School of Physics and Astronomy, please visit: <http://www.ph.bham.ac.uk/research/groups/index.shtml>.