

Research Associate

Department	Electronic and Electrical Engineering (www.strath.ac.uk/engineering/electroniclectricalengineering/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Research	Reference No	558930
Reports To	The Head of Department, through Professor Min Zhang	Grade:	7
Salary Range:	£36,024 - £44,263	Contract Type:	Fixed Term (31/01/2025)
FTE:	1	Closing Date	Friday, 29 September 2023

Job Advert

We have an exciting opportunity within the Department for a Research Associate, to participate in a research project which involves investigating the industrial application of high field magnets using high temperature superconductors.

The Research Associate will be part of the Applied Superconductivity Laboratory at the University of Strathclyde which has established an international reputation in electrical power engineering research. It operates within the Department of Electronic and Electrical Engineering, and hosts over 270 researchers in state-of-the-art facilities including the Technology and Innovation Centre and the Power Networks Demonstration Centre (PNDC)

The post holder will be expected to conduct cutting edge simulation and experiment to design high temperature superconducting magnets. To be considered for the role, you will be educated to a minimum of PhD level in an appropriate discipline, or be in the final stage of your Ph.D. study. You will have experience in designing, fabricating, testing and modelling HTS magnets for industrial applications, especially HTS machines. You will have sufficient breadth and depth of knowledge of research relevant to inverters and a developing ability to conduct individual research work, to disseminate results and to prepare research proposals. You will have excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences.

*Whilst the department is looking to recruit recent PhD graduates to join the team, applications from candidates who have completed their research and are finalising submission of their PhD thesis are also welcome. Dependent on this position of the candidate, the appointment may be made at Research Assistant level (RS06 salary scale £31,396 - £34,980) until completion of the PhD and duties adjusted to reflect the grade of the post.

Job Description

Brief Outline of Job:

To undertake a specific research project/s under the general guidance of a research leader; to establish a personal research portfolio and plan research proposals, with assistance from senior colleagues as required; to engage where required in relevant teaching, professional and knowledge exchange activities; and input to administrative activities.

Main Activities/Responsibilities:

1.	As part of a wider research group or programme, develop research objectives and proposals for own or joint research and play a lead role in relation to a specific project/s or part of a broader project, with guidance from senior colleagues as required.
----	--

2.	Plan and manage designs and measurements of HTS magnets, with guidance from colleagues as required.
3.	Conduct individual and/or collaborative research, including establishing appropriate numerical models and contributing to the development of improved HTS magnet designs.
4.	Identify sources of funding and contribute to the securing of funds for research, including drafting grant proposals and planning for future proposals.
5.	Write up research work for publication, individually or in collaboration with colleagues, and disseminate results as appropriate to the discipline by, for example, peer reviewed journal publications and presentation at conferences.
6.	Join external networks to share information and ideas, inform the development of research objectives and to identify potential sources of funding.
7.	Collaborate with colleagues to ensure that research advances inform departmental teaching effort.
8.	Collaborate with colleagues on the development of knowledge exchange activities by, for example, participating in initiatives which establish research links with industry and influence public policy and the professions.
9.	Supervise student projects, provide advice to students and contribute to teaching as required by, for example, running tutorials and supervising practical work.
10.	Contribute in a developing capacity to Department/School, Faculty and/or University administrative and management functions and committees.
11.	Engage in continuous professional development.

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E1 Good honours degree and PhD (or finalising submission of their PhD thesis) in an appropriate discipline i.e.

D1 Membership of relevant Chartered/professional bodies (including Higher Education Academy).

Experience

E2 Sufficient breadth or depth of knowledge in the magnetization of HTS materials, including experiments and FEM modelling, to contribute to research programs and the development of research activities.

E3 Extensive experience in the study of applied superconductivity.

D2 Experience of relevant student supervision and teaching activities.

E4 Experience of studying the application of HTS magnets in HTS machine design.

D3 Experience of knowledge exchange related activities.

Job Related Skills and Achievements

E5 Developing ability to conduct individual research work, to disseminate results and to prepare research proposals.

E6 Demonstrated ability to publish academic papers, as evidenced by a minimum of 8 published academic papers, including at least 4 journal papers as the first author.

E7 Ability to conduct magnetization research of HTS bulk and tape materials including experiments and numerical modelling.

E8 Ability to calculate the magnetization characteristics, electromagnetic-force coupling, and AC losses of superconductors.

E9 Ability to plan and organise own workload effectively.

Personal Attributes

E10 Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences.

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Professor Min Zhang at min.zhang@strath.ac.uk.

Conditions of Employment

Conditions of employment relating to the Research staff category can be found at: [Conditions of Employment](#).

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found [here](#).

Probation

Where applicable, the successful applicant will be required to serve a 9 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from [Payroll and Pensions](#).

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Equality and Diversity

The University of Strathclyde is a socially progressive institution that strives to ensure equality of opportunity and celebrates the diversity of its student and staff community. Strathclyde is people-oriented and collaborative, offering a supportive and flexible working culture with a deep commitment to our equality, diversity and inclusion charters, initiatives, groups and networks.

We strongly encourage applications from Black, Asian and minority ethnicity, women, LGBT+, and disabled candidates and candidates from lower socio-economic groups and care-experienced backgrounds.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. [Our Values](#) have been derived from how we act and how we expect to be treated as part of Strathclyde.

