

Job Title: Research Associate

Grade: 7

Salary: £39,906 to £44,746 per annum due to external funding restrictions

Department: School of Chemistry

Hours/Contract: Full-time or job share, fixed term contract to 31 December 2027

Reference: 12375

Role Purpose

Take a leading role in experimental design and determining the direction of the project in line with reaching the research goals, developing your own independent research and providing guidance to the other members of the team in the area of superfluid helium and nanoscience.

Main Duties and Responsibilities

- Lead experimental work using ultrahigh vacuum systems, lasers, and cryogenic technology to investigate superfluid helium nanodroplets. Independently manage operation, troubleshooting, and optimisation of experimental apparatus
- Develop and carry out an independent original research programme, giving guidance to other members of the team
- Plan and carry out the work programme for own research contribution, using methodology and techniques appropriate to this type of research
- Writing up research findings for dissemination amongst the research team and broader international community
- Design and implement research protocols aligned with project goals; plan weekly objectives and adapt to project needs
- Collaborate with PhD students and technicians to coordinate lab schedules and resolve technical issues. Provide guidance and mentoring as needed.
- Analyse experimental data; extract trends and draw theoretical interpretations in collaboration with modelling partners
- Contribute to the intellectual direction of the project, proposing new experiments and methodologies.
- Assist in the training of new lab members, including undergraduates and visiting researchers
- Support the smooth running of the laboratory, including safety protocols, equipment maintenance, and compliance with internal procedures
- Assist with the training of new members of the lab, including undergraduate students and work experience trainees; Report to the PI, ensuring the progress of the project towards the goal identified.

Internal and External Relationships

- Collaborate closely with PI, PhD students, and other research staff in the School of Chemistry.





- Liaise with theoretical collaborators and external partners to support data interpretation and knowledge exchange.
- Contribute to research group meetings, workshops, and outreach where appropriate.

Planning and Organising

- Independently plan experimental milestones in line with the project timeline.
- Coordinate with the broader team to prioritise shared tasks and ensure efficient use of lab resources.
- Maintain clear documentation of progress, experiment logs, and equipment manuals.

Qualifications, Knowledge and Experience

Essential

- PhD (or equivalent) in Physics, Physical Chemistry, Nanoscience, or closely related discipline*
- Practical experience with ultrahigh vacuum systems, cryogenics, and laser spectroscopy*
- Demonstrable ability to lead experimental activities and work independently on complex instrumentation*
- Proven record of scientific publications and conference presentations.
- Familiarity with physical chemistry, quantum fluids, or nanoscience.

Desirable

- Hands-on experience with superfluid helium droplet systems or cryogenic beamlines.
- Experience in nanomaterials synthesis and characterisation.
- Experience developing experimental control software or data analysis pipelines.

Skills, Abilities and Competencies

Essential

- Strong IT skills, including data processing and report writing using MS Office and scientific software Strong experimental troubleshooting and analytical skills
- Excellent written and verbal communication skills to convey technical information clearly
- Ability to collaborate in a team while showing leadership in delegated tasks
- Self-motivated with ability to prioritise, plan, and deliver research outputs on time

Desirable

- Evidence of problem-solving and adaptability in a lab setting.
- Ability to train and mentor junior colleagues.
- Awareness of laboratory safety and best practice in research environments.
- Proactive in contributing to the overall goals and culture of the team.



***Criteria to be used in shortlisting candidates for interview**

Reason for Fixed Term Contract

The reason for the fixed term contract is stated in section 1.9 in the summary of contractual terms in your contract of employment.

Criminal Declaration

If you become an employee, you must inform your manager immediately, in writing, if you are the subject of any current or future police investigations/legal proceedings, which could result in a criminal offence, conviction, caution, bind-over or charges, or warnings.

Supporting University Activities

As a University of Leicester citizen, you are expected to support key university activities such as clearing, graduation ceremonies, student registration and recruitment open days. We expect all staff as citizens to work flexibly across the University if required.

University Values

Inclusive - We are diverse in our makeup and united in ambition. Our diversity is our strength and makes our community stronger.

Inspiring - We are passionate about inspiring individuals to succeed and realise their ambitions. We challenge our community to think differently, to get involved, and to constantly embrace new ideas.

Impactful - As Citizens of Change we will generate new ideas which deliver impact and empower our community

Equity and Diversity

We believe that equity, diversity and inclusion is integral to a successful modern workplace. By developing and implementing policies and systems that challenge stereotypes across all aspects of our work, we have a culture that recognises and values the diverse contributions of our staff which benefits everyone. Our strong values of inclusivity and equity support our efforts to attract a diverse range of high quality staff and students, and identify our University as a progressive and innovative workplace that mainstreams equity, diversity and inclusion.

