



RESEARCH FELLOW

DEPARTMENT/UNIT	School of Physics and Astronomy
FACULTY/DIVISION	Faculty of Science
CLASSIFICATION	Level A
DESIGNATED CAMPUS OR LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at monash.edu.

The **School of Physics and Astronomy** is a School located within the Faculty of Science. It aims to position itself as one of the top physics and astronomy research and teaching departments in Australia. The School is committed to teaching and research of the highest quality in astronomy, astrophysics, experimental physics, and theoretical physics. We are strongly committed to improving the diversity of our staff and students, and promoting a culture of equality, fairness, respect and openness. In 2015, the School received a Bronze Pleiades Award - Recognising Commitment to Advancing Women in Astronomy. This is an important first step in affirming women within the School, one that we can build upon. Please visit monash.edu/science/schools/physics.

The **ARC CoE in Future Low-Energy Electronics Technologies (FLEET)** is an international innovator in novel electronics technologies. Enabled by the new science of atomically thin materials, FLEET brings together over 40 world-leading experts to develop a new generation of ultra-low power devices. The team is highly interdisciplinary with high-profile researchers from atomic physics, condensed matter physics, materials science, electronics, nanofabrication and atomically thin materials.

With over \$40M investment from the ARC and contributing organisations, FLEET is poised to make significant global impact in the electronics and energy sectors. By building strategic and strong partnerships with Australian and international industry, research institutions and government, FLEET aims to build capacity for advanced electronics research in Australia and train the workforce for the next generation of electronic materials researchers and future semiconductor industry. To learn more about FLEET, please visit our website: fleet.org.au.

At FLEET, we are committed to gender equity and passionate about building future leaders in the field. All of our early career researchers and HDR students will take part in a comprehensive training program incorporating excellent supervision and professional development. To learn more about the benefits of working with us, please visit fleet.org.au/collaborate.

POSITION PURPOSE

A Level A research-only academic is expected to contribute towards the research effort of the University and to develop their research expertise through the pursuit of defined projects relevant to the particular field of research.

The **Postdoctoral Research Fellow** will conduct research in experimental condensed matter physics and nanoscience. The incumbent will synthesise and investigate atomically precise low-dimensional nanomaterials, by means of molecular beam epitaxy, low-temperature scanning probe microscopy, in situ electron transport measurements and synchrotron-based surface science spectroscopy in ultra-high vacuum.

The Research Fellow is expected to publish papers in high-impact journals, present results at major conferences and workshops, and to assist in the supervision of PhD and honours students in the Centre.

FLEET is invested in increasing the representation of women in the physics and materials science fields. Applications from female candidates are highly encouraged.

Reporting Line: The position reports to the senior academic in the School of Physics & Astronomy

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level A research-only academic may include:

1. Conduct research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research
2. Involvement in professional activities including, subject to availability of funds, including attendance at conferences and seminars in the field of expertise
3. Contribute at least 20 hours per year towards outreach activities
4. Actively participate in FLEET research, mentoring and professional development programs
5. Attend FLEET workshops, seminars and meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and/or membership of a limited number of committees
6. Provide advice within the field of the staff member's research to postgraduate students
7. Limited administrative functions primarily connected with the area of research of the academic (e.g., the preparation of competitive grants)
8. Co-supervision of major, honours or postgraduate research projects within the field of the staff member's area of research
9. Occasional contributions to supervision/teaching in relation to their research project(s)
10. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - A doctoral qualification in Physics, Physical Chemistry or Materials Engineering or closely related fields.

Knowledge and Skills

2. A strong background and expertise in experimental condensed matter physics (particularly surface and nanophysics)
3. Demonstrated record of high-impact, peer-reviewed publications in experimental physics, surface science, physical chemistry and/or materials engineering
4. Ability to solve complex problems by using discretion, innovation and the exercise diagnostic skills and/or expertise
5. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines and willingness to work on multidisciplinary problems and learn new skills
6. Excellent written communication and verbal communication skills with proven ability to effectively analyse information, and communicate the aims and outputs of research projects in a range of formats including formal and informal oral presentations, refereed research papers and reports
7. A demonstrated ability to work independently in a research environment (with limited supervision) and as part of an interdisciplinary research team
8. A demonstrated potential to attract external research funding and capacity to successfully supervise postgraduate research students
9. Demonstrated computer literacy and proficiency in the production of high-level work using software such as Microsoft Office applications and specified University software programs, with the capability and willingness to learn new packages as appropriate
10. Research experience in ultra-high vacuum science, materials science, solid-state physics, scanning probe microscopy, molecular beam epitaxy, synchrotron-based surface science techniques, low-temperature physics and/or electron transport measurements

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted

GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.