



RESEARCH FELLOW

DEPARTMENT/UNIT	School of Chemistry
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 www.monash.edu.

The five Schools of the **Faculty of Science** offer a large and diverse range of disciplines in undergraduate and postgraduate courses. Ten Schools from other university faculties contribute to science teaching at all levels, allowing students to choose their studies from physical, biological, biomedical, behavioural, environmental, mathematical and computer sciences. The Faculty of Science has a strong research reputation. The faculty's research spans the theoretical to the applied, contributes to new knowledge and technologies, and challenges how we interact with the world. To learn more about the Faculty of Science, please visit our website: www.monash.edu/science/.

The **School of Chemistry** (<https://www.monash.edu/science/schools/chemistry>) is located in the Faculty of Science and is one of the leading Chemistry Schools in Australia (as per national benchmarking statistics) with an international reputation for its quality research programs and postgraduate training. The School's main research themes focus on Green Chemistry, Energy, and Health, and has within it the ARC Training Centre for *Green Chemistry in Manufacturing*, and hosts nodes of the ARC Centres of Excellence in *Electromaterials Science* and in *Enabling Eco-Efficient Beneficiation of Minerals*. The objectives of the School are to undertake and publish high quality research, promote industry and government engagement, and to provide internationally recognized programs in Chemistry for undergraduate and postgraduate students. The School of Chemistry is taking a lead role in Monash's partnership with the Federal Government in the development of Green Chemical Futures (GCF) - a \$75 million investment in the future of chemical sciences. The long-term objective of the GCF initiative is to produce a pipeline for the technologies and resources needed by an industry striving for a lower environmental footprint and to produce chemistry graduates of the highest calibre armed with knowledge that will help transform industry into the future.

The ARC Centre of Excellence in Exciton Science is a multi-disciplinary and multi-institutional research centre working to understand, examine and manipulate the way light energy is absorbed, transported and transformed in advanced molecular materials. The Centre has nodes at The University of Melbourne, Monash University, RMIT, The University of Sydney and UNSW Sydney. The Centre is funded by the Australian Government through the Australian Research Council with funding through to the end of 2023. The successful applicant to this position will be required to work collaboratively across the Centre nodes and research areas as defined in the research specification below. More information about the ARC Centre of Excellence in Exciton Science can be found at www.excitonscience.com.

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.

This position conducts high-quality research in the area of physical chemistry and nanoscience, with an emphasis on self-assembly of nanostructures, energy transfer and spectroscopy. The incumbent is part of a multidisciplinary research team, with strong interactions with other research groups and institutions working under the ARC Centre of Excellence in Exciton Science (ACEX). This Level A research-only position focuses on the self-assembly and investigation of semiconductor nanoparticle superstructures, using advanced spectroscopy and microscopy to determine their optical response. The incumbent is involved in supervision of undergraduate and postgraduate research projects and take on a leadership role in the day-to-day operations of the laboratory. Key outcomes of the Level A research-only position will be intellectual property and scientific publications.

The position works within research platform(s) 1.1: Excitonic Light Management and 2.2: Excitons at Interfaces of the Centre. The overarching goal(s) of these research platforms are to exceed the 30% Shockley-Queisser efficiency limit for light-to-electricity energy conversion and to design interfaces to control excitons and construct single molecule devices and functional nanostructures. The position focuses specifically on the development of a luminescent solar concentrator (LSC).

Reporting Line: The position reports to project Chief Investigator

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. The conduct of 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, attendance at conferences and seminars in the field of expertise
3. Limited administrative functions primarily connected with the area of research of the academic
4. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff
5. Occasional contributions to teaching in relation to their research project(s)
6. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures

7. Attendance at 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
8. Advice within the field of the staff member's research to postgraduate students
9. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - A doctoral qualification in Chemistry or a closely related field

Knowledge and Skills

2. Experience in well-controlled nanocrystal self-assembly (of either/both discrete or large area assemblies), and ideally in the fields of energy transfer, time-resolved optical spectroscopy (e.g. TCSPC, flash photolysis) and spatially-resolved optical fluorescence microscopy/spectroscopy
3. Demonstrated analytical and manuscript preparation skills, including a track record of refereed research publications.
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
6. Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents
7. A demonstrated awareness of the principles of confidentiality, privacy and information handling
8. A demonstrated capacity to work in a collegiate manner with other staff in the workplace
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

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.