Position Description – Research Assistant

Position Details

Position Title: Research Assistant

College/Portfolio: STEM College

School/Group: School of Science

Campus Location: Based at the Melbourne city campus, but may be required to work and/or be based at other campuses of the University.

Classification: Academic Level A6

Employment Type: Fixed term (NHMRC grant funded position, 2 years)

Time Fraction: 1.0

RMIT University

RMIT is a multi-sector university of technology, design and enterprise. The University's mission is to help shape the world through research, innovation and engagement, and to create transformative experiences for students to prepare them for life and work. For more information on RMIT University follow the links below.
https://www.rmit.edu.au/about
https://www.universitiesaustralia.edu.au/university/rmit-university/
https://www.rmit.edu.au/about/facts-figures

Our three main campuses in Melbourne are located in the heart of the City, Brunswick and Bundoora. Other locations include Point Cook, Hamilton and Bendigo, two campuses in Vietnam (Hanoi and Ho Chi Minh City) and a centre in Barcelona, Spain. RMIT is a truly global university.
https://www.rmit.edu.au/about/our-locations-and-facilities

We are also committed to redefining our relationship in working with, and supporting, Indigenous self-determination. Our goal is to achieve lasting transformation by maturing our values, culture, policy and structures in a way that embeds reconciliation in everything we do. We are changing our ways of knowing, working and being to support sustainable reconciliation and activate a relationship between Indigenous and non-Indigenous staff, students and community. Our three campuses in Melbourne (City, Brunswick and Bundoora campuses) are located on the unceded lands of the people of the Woi Wurrung and Boon Wurrung language groups of the eastern Kulin Nation.

Why work at RMIT University

Our people make everything at the University possible. We encourage new approaches to work and learning, stimulating change to drive positive impact. Find out more about working at RMIT University, what we stand for and why we are an Employer of Choice.
https://www.rmit.edu.au/careers

We want to attract those who will make a difference. View RMIT's impressive standings in university rankings.
https://www.rmit.edu.au/about/facts-figures/reputation-and-rankings

STEM College
STEM College is a community of exceptional STEM researchers, teachers, inventors, designers and game-changers, supported by talented professional staff. We offer higher education programs across all STEMM disciplines at the Bachelor, Master and PhD levels, and ensure our students experience an education that is work-aligned and life-changing.

The College is renowned for its exemplary research in many STEM areas including advanced manufacturing and design; computing technologies; health innovation and translational medicine; nano materials and devices; and sustainable systems. Our brilliant researchers attract funding from government and industry sources.

Industry is at the heart of what we do. It ensures our research has real world impact, and our students are truly work-ready. Under the leadership of DVC and Vice-President, Digital Innovation, we have established new hubs of industry-connected digital innovation and endeavour and are engaging with global STEM organisations at scale.

Our diversity and shared values empower our work, and we are proud of the College's inclusive, caring culture. We offer a safe, dynamic work environment, and support every member of our community of achieve their potential. The College appointed Victoria's first ever Dean of STEM, Diversity & Inclusion in 2020, and this role drives gender equity, diversity and inclusion strategies across the College.

STEM College employs 1,000 staff who deliver onshore and offshore programs to approximately 20,000 students.

We are here to positively impact the world and create the next generation of STEM leaders.

For more information, visit
https://www.rmit.edu.au/about/schools-colleges/stem-college

School of Science

The School of Science provides more than 45 bachelor and postgraduate programs to 5,000 students and undertakes world-class research across the disciplines of:

- biosciences and food technology
- applied chemistry and environmental science
- physics
- mathematical sciences
- geospatial sciences

For more information, visit https://www.rmit.edu.au/about/schools-colleges/science

Position Summary

We are seeking a highly motivated and skilled PhD graduate with expertise in biophotonics, optical engineering, or physics to join our dynamic multidisciplinary team as a Research Scientist/Engineer, working towards development and validation of an innovative nanophotonic therapy to treat drug-resistant hypertension. The ideal candidate will have advanced skills in optical design and fabrication, with the ability to prototype and test light delivery and optical feedback systems. This role also involves conducting numerical modelling of light propagation in biological tissues, contributing to the development of cutting-edge optical technologies for biomedical applications.

Drug-resistant hypertension is a critical and growing global health challenge, affecting millions of patients who fail to respond to standard treatments. By joining this project, you have the opportunity to directly improve quality of life, reduce the burden of cardiovascular disease, and make a transformative impact on public health. This work not only pushes the boundaries of medical science but also contributes to solving one of the most pressing unmet needs in healthcare today.

Reporting Line

Reports to: Dr Blanca del Rosal

Organisational Accountabilities

RMIT University is committed to the health, safety and wellbeing of its staff. RMIT and its staff must comply with a range of statutory requirements, including equal opportunity, occupational health and safety, privacy and trade practice. RMIT also expects staff to comply with its policy and procedures, which relate to statutory requirements and our ways of working.

RMIT is committed to providing a safe environment for children and young people in our community. Read about our commitment and child safe practices. https://www.rmit.edu.au/about/our-locations-and-facilities/facilities/safety-security/child-safety

Appointees are accountable for completing training on these matters and ensuring their knowledge and the knowledge of their staff is up to date.

Key Accountabilities

1. Design and develop advanced optical systems for light delivery and feedback in biological environments.
2. Fabricate and prototype optical components and devices using state-of-the-art techniques and tools.
3. Conduct rigorous testing and optimization of optical systems to ensure performance and reliability.
4. Perform numerical modelling and simulations of light propagation in biological tissues using computational methods.
5. Collaborate with interdisciplinary teams to integrate optical systems with biological and medical applications.
6. Analyse experimental and simulation data to provide actionable insights and support project goals.
7. Prepare technical documentation, reports, and research papers to disseminate findings.
8. Prepare and deliver presentations for stakeholder updates and conferences.
9. Stay updated on the latest advances in biophotonics and related fields.
10. Ensure adherence to safety and regulatory standards in all research and development activities.
11. Conduct research/scholarly activities under limited supervision either independently or as a member of a team including: publishing and presenting research outputs at conferences and research forums; contributing to external research funding submissions; participating in supervision of higher degree by research candidates.
12. Undertake administration related to the position.

Key Selection Criteria

1. Extensive experience in optical design, fabrication, and prototyping.
2. Strong proficiency in numerical modelling of light propagation in complex media, including biological tissues.
3. Expertise in optical simulation software (e.g., Zemax, COMSOL, FDTD solutions) and programming languages (e.g., MATLAB, Python, C++).
4. Hands-on experience with optical characterization tools such as spectrometers, lasers, and imaging

systems.

5. Experience with biophotonics applications, such as endoscopy, optical fiber technologies, or laser-based therapies.
6. Knowledge of tissue optics and photothermal/ photochemical effects.
7. Familiarity with microfabrication techniques and nanophotonic device development.
8. Current Level 2 or higher Laser Safety Supervisor certificate.
9. Demonstrated ability to provide leadership and support within your area of expertise for other stakeholders, including academics, students, technical staff, contractors, consultants and suppliers.
10. Excellent verbal and written communication skills, with a strong record of scientific publications.
11. Ability to work autonomously whilst displaying a strong commitment to work in a team environment, including the demonstrated ability to confidently and effectively work with colleagues, project team leaders, and industry partners.
12. Demonstrated ability to meet deadlines and effectively manage varying workloads and respond to changing priorities as required.

Qualifications

Mandatory: PhD in Biophotonics, Optical Engineering, Physics, or a related field.

Note: Appointment to this position is subject to passing a Working with Children Check and other checks as required by the specific role. Maintaining a valid Working With Children Check is a condition of employment at RMIT.