



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**

Position Title:	Research Associate
Position Classification:	Level A
Position Number:	NEW
Faculty/Office:	Faculty of Engineering and Mathematical Sciences
School/Division:	Physics and Astrophysics
Centre/Section:	The ARC Centre of Excellence for Gravitational Wave Discovery
Supervisor Title:	Associate Professor
Supervisor Position Number:	

Your work area

OzGrav Overview:

The Australian Research Council Centre of Excellence for Gravitational Wave Discovery (OzGrav, www.ozgrav.org) has recently been established to use the historic first detections of gravitational waves to understand the extreme physics of black holes and warped space time. These discoveries will inspire the next generation of scientists and engineers to make use of this new window on the universe. OzGrav will provide experimental validation of Einstein's General Theory of Relativity and involve the use of billion-dollar experimental apparatus such as Advanced LIGO and the Square Kilometre Array. The Centre includes the following participating universities: Swinburne University of Technology, The Australian National University, The University of Melbourne, Monash University, The University of Western Australia, The University of Adelaide as well as overseas organisations including Caltech and MIT and the international LIGO Scientific Collaboration.

The University of Western Australia, OzGrav node is part of a large national team of gravitational wave (GW) researchers working on instrumentation and optics, astrophysics, data analysis, pulsar timing and multi-messenger astronomy.

The UWA node has a rich research history in **multi-messenger astronomy**. Our main focus is understanding transient gravitational wave sources and their relationship to possible electromagnetic sources, especially gamma ray bursts. We operate a 1-m fully robotic telescope (Zadko Telescope) for rapid follow-up of transients across the electromagnetic spectrum and beyond, including: gamma ray bursts, fast radio bursts, neutrino sources and gravitational wave (GW) candidates. Our astrophysics program collaborates with other OzGrav nodes, and as active members of the international LIGO Scientific Collaboration (LSC), our work also focuses on analysing LIGO data for GW sources correlated with gamma ray bursts and fast radio bursts.

Reporting Structure

Reports to: OzGrav theme leader and UWA Chief Investigator

Direct Reports:

Your role

The postdoctoral fellow is to conduct research and development in the area of multi-messenger astronomy with a focus on gravitational wave transients and electromagnetic counterparts.

Our core research facility is the Zadko Telescope, with which the postdoc will have the opportunity to lead or manage multiple observational projects. These include gamma ray burst optical follow-up, and searching for optical counterparts to fast radio bursts.

One key task will be to develop and test optimal procedures for identifying optical counterparts to LIGO GW sources. The role is expected to have some overlap with GW data analysis research at UWA, and other OzGrav nodes.

In addition the fellow will supervise final year undergraduate, Master and PhD students working on science projects that employ the Zadko telescope.

Key responsibilities

Lead the Zadko Telescope science program

Supervise final year undergraduate, Master and PhD students working on campus

Liaise with key technical personnel, such as the observatory manager, to maintain a functional environment for active and productive research.

Report the science to OzGrav and in research papers in high impact international journals

Other duties as directed.

Your specific work capabilities (selection criteria)

PhD in physics or engineering

Experience in programming and control systems is desirable

Experience in observational and/or robotic astronomy is desirable

Publications in high impact journals

Ability to communicate at a technical level and with the public (media).

Special Requirements

Occasional work at the Zadko Observatory site (1.5 hrs drive north of UWA)

Willingness to stay overnight on occasions

Compliance

Workplace Health and Safety

All supervising staff are required to undertake effective measures to ensure compliance with the Occupational Safety and Health Act 1984 and related University requirements (including Safety, Health and Wellbeing Objectives and Targets).

All staff must comply with requirements of the Occupational Safety and Health Act and all reasonable directives given in relation to health and safety at work, to ensure compliance with University and Legislative health and safety requirements.

Details of the safety obligations can be accessed at <http://www.safety.uwa.edu.au>

Equity and Diversity

OzGrav supports a flexible working environment. Subject to visa restrictions, all full-time opportunities are available as part-time positions. OzGrav nodes are committed to providing a supportive and equitable work place for all staff and students. We are committed to advancing gender equality, and we also welcome applications from Indigenous people; varying age workers; people with disabilities; sexually and gender diverse people; and those from culturally and linguistically diverse backgrounds.

All staff members are required to comply with the University's Code of Ethics and Code of Conduct and Equity and Diversity principles. Details of the University policies on these can be accessed at http://www.hr.uwa.edu.au/publications/code_of_ethics, <http://www.equity.uwa.edu.au>