Position Title:	Research Associate/ Research Fellow
Position Classification:	Level A/B
Position Number:	NEW
Faculty/Office:	Faculty of Engineering and Mathematical Sciences
School/Division:	School of Physics and Astrophysics
Supervisor Title:	Professor
Supervisor Position Number:	311317

Your work area

UWA offers a vibrant research environment for gravitational wave astronomy. There is a long history of gravitational wave research at UWA. One of the first cryogenic bar detector Niobe was developed at the UWA during the 1980s. The UWA gravitational wave astronomy group is currently an active member of the LIGO Scientific Collaboration (http://www.ligo.org/) as part of the Australian Consortium for Interferometric Gravitational Astronomy (http://www.aciga.org.au/), and is also an active member for Parkes Pulsar Timing Array (http://www.atnf.csiro.au/research/pulsar/ppta/) that aims to detect nanohertz gravitational waves. In addition, the UWA currently operates a world-class gravitational wave experimental facility at Gingin, 80 km north of Perth that includes an 80-m prototype for interferometric GW detectors. Located at Gingin is also the award-wining Gravity Discovery Centre (http://www.gravitycentre.com.au/) for public outreach.

The gravitational wave astronomy group at the School of Physics and Astrophysics (http://www.physics.uwa.edu.au/research/gravitational-wave-astronomy) is currently expanding its effort in gravitational wave signal processing, astrophysics of gravitational wave sources, and multi-messenger astronomy. The current research effort includes (1) low-latency detection of gravitational waves from coalescing binaries of compact object to enable prompt electromagnetic follow up observations, (2) supercomputing using Graphics Processing Units, (3) astrophysics of gravitational wave sources, and (4) detecting gravitational waves from binary supermassive black holes using pulsar timing arrays. The research effort is supported by ARC Discovery Project, and ARC Centre of Excellence for Gravitational Wave Discovery (http://www.arc.gov.au/arc-centres-excellence).

Reporting Structure

Reports to: Professor

Direct Reports: Nil

Your role

You will undertake research duties in the area of multi-messenger astronomy with gravitational waves. This include searching for gravitational wave signals in detector data, analytical or numerical studies of various gravitational wave sources and their possible electromagnetic counterpart, strategies to enable prompt electromagnetic follow-up observations, test of Einstein's theory of gravity using gravitational wave data, and astrophysics related to joint gravitational wave-electromagnetic observations.

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Key responsibilities

Provide high-level research at the forefront of gravitational wave physics with emphasis on the interface between gravitational wave signal processing and multi-messenger astronomy.

Prepare research papers for publication in high impact refereed journals

Present research results at seminars and conferences

Seek additional research funding by grant applications

Contribute to international collaboration of gravitational wave multi-messenger astronomy

Contribute to the supervision of Honours, Masters and PhD research projects

Other duties as directed

Your specific work capabilities (selection criteria)

Ph.D. in astrophysics or astronomy.

Experience and demonstrated excellence in research in the fields of gravitational wave data analysis and astrophysics.

Publications in high impact journals

Ability to establish international collaborations with leading international experts

Special Requirements

Nil

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
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