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

Your work area

Our research group is the West Australian node of the new Australian Research Council (ARC) Centre of Excellence in Gravitational Wave Discovery (OzGrav) (http://www.arc.gov.au/arc-centres-excellence). We have a long history in gravitational wave research and are active members of the international LIGO Scientific Collaboration (LSC). We operate the Australian Consortium High Optical Power Gravitational Wave Research Facility at Gingin, with 80m suspended high finesse cavities.
Our current research is focused on developing advanced techniques for LIGO and for the next generation of detectors. Our research program includes the control of parametric instability, optimizing interferometers for measurements below the standard quantum limit, high power silicon optical cavities for 3rd generation detectors and improvements in low frequency vibration isolation.
At the UWA campus we undertake small scale experiments on optomechanics for improving the quantum noise limited sensitivity of gravitational wave detectors.

Reporting Structure

Reports to: OzGrav UWA Node Director

Direct Reports: Gingin Research Director

Your role

You will conduct research, primarily at the Gingin laboratory which is 90km from UWA main campus, with the high power suspended optical cavity, to develop techniques for control of parametric instabilities and design of experiments for testing silicon optics for 3rd generation detectors, as well as provide day-to-day supervision to PhD students working on this project. Work will involve regular stays at the Gingin facility while experiments are underway.
You will also assist in supervising final year undergraduate, Master and PhD students working on small scale optical, optomechanical and vibration isolation experiments, and you are expected to participate in proposing and developing new experiments aiming for improving the sensitivity of gravitational wave detectors.

Key responsibilities

Lead the experimental team at Gingin laboratory, supervise postgraduate students and liaise closely with the Centre's chief investigators.

Supervise final year undergraduate, Masters and PhD students at the UWA campus laboratories

Liaise with technical staff to maintain a functional experimental environment including vacuum system, laser safety system and cleanrooms at Gingin site.

Keep high quality records

Write research papers in high impact international journals

Other duties as directed.

Your specific work capabilities (selection criteria)

A PhD in experimental physics
Experience in lasers, optics, and opto-mechanical measurements.
Knowledge of control systems, quantum optics, vibration isolation and noise measurements is desirable.
Writing and publishing papers in high impact journals
Ability to establish and maintain international collaborations with leading international experts.

Special Requirements

Occasional weekend work

Willingness to overnight and travel to Gingin laboratory

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