Position Title:	Research Associate
Position Classification:	Level A
Position Number:	316679
Faculty/Office:	Engineering and Mathematical Sciences
School/Division:	Electrical, Electronic and Computer Engineering
Centre/Section:	Microelectronics Research Group
Supervisor Title:	Winthrop Professor Lorenzo Faraone
Supervisor Position Number:	104165

Your work area

The Department of Electrical, Electronic and Computer Engineering, which is part of the Faculty of Engineering and Mathematical Sciences, has research activities in the general areas of Controls Systems, Microelectronics, Optical and Biomedical Engineering, Signal Processing, Wireless Communications, CIIPS, Robotics and Electromagnetic compatibility. This position will support existing research activities in semiconductor materials and devices, within Microelectronics Research Group (MRG), focused on advanced electronic and optoelectronic materials of strategic importance for applications ranging from infrared (IR) detectors to high speed electronics. Primarily, this position will provide growth, characterisation and optimisation support to UWA's HgCdTe and HgCdSe crystal growth effort. This position is funded by a number of ARC Projects which are supported by international collaboration links.

Reporting Structure

Reports to Head, Microelectronics Research Group

Your role

The appointee will conduct his/her research work with the Chief Investigators of the relevant funded ARC projects and in collaboration with other research staff at the MRG.

Key responsibilities

1. MBE growth of related HgCdTe and HgCdSe materials, as well as provide assistance to the maintenance of the MBE facilities;
2. Structural, optical and electronic characterisation of HgCdTe and HgCdSe semiconductor materials grown at UWA;
3. Producing research progress updates at relevant research meetings, and written progress reports when required;
4. Presentation of research progress results at MRG and/or Faculty research seminars;
5. Publishing high quality peer-reviewed journal papers related to the research work;
6. Presentation of research results and conclusions in workshops and conferences;
7. Applying for research grants.
8. Supervision of Honours, Masters, and PhD level students.
9. Other duties as directed.

Your specific work capabilities (selection criteria)

- A PhD in a relevant field;

- Proficient in MBE growth of narrow band-gap II-VI semiconductor thin film materials and their material characterization;
- Significant knowledge and experience in II-VI device fabrication of semiconductor devices, and in particular infrared photodetectors, as well as their device performance testing;
- Familiar with basic device modelling of narrow band-gap II-VI semiconductor devices, including infrared photodetectors;
- Publication of high quality peer-reviewed journal papers related to the research;
- Presentation of research results and conclusions in workshops and conferences;
- Fluency in English, and good oral and written communication skills (English);
- Ability to co-supervise honours and postgraduate students;
- Ability to work both independently and in a team.

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