## 2014 PhD Scholarship – Peter MacCallum Cancer Centre

**Advanced image analysis for prostate cancer using
functional imaging and histopathology**

The University of Melbourne's Sir Peter MacCallum Department of Oncology, based within the Peter MacCallum Cancer Centre (Peter Mac), is seeking a suitably qualified candidate (H1 honours or equivalent) to undertake a full time PhD, based at Peter Mac and co-located at the NICTA Victorian Research Laboratory (The University of Melbourne).

A 3-year PhD stipend from the Prostate Cancer Foundation of Australia is available for a suitable student.

As Australia's only public hospital solely dedicated to cancer treatment, research and education, one of Peter Mac's core visions is to drive the translation of research into innovative clinical treatment approaches. Research at Peter Mac embraces the full spectrum, from fundamental studies on cancer cell growth to major national and international clinical trials of the newest cancer therapies. There is a special focus on identifying the key drivers of cancer growth, the use of advanced imaging techniques to monitor cancer spread, and in developing personalised, molecularly targeted treatments.

This project provides a unique opportunity to make a contribution to future cancer treatment approaches.

Prostate cancer is a disease where multiple tumour deposits are often seen in the prostate gland. In this project, advanced image analysis and machine learning techniques will be developed and applied to co-registered histopathology and functional MR images to improve the understanding of prostate tumour location and biology.

The student will develop additional image processing and machine learning methods to analyse histopathology images and co-registered data and will work alongside a specialist team including biomedical engineers, pathologists, physicists and radiation oncologists from Peter Mac and computer scientists at NICTA.

*Skills desired from the PhD candidate:*
- Machine learning and computer vision experience
- Knowledge of image processing and analysis
- Computer programming skills (such as MATLAB, C or Java)
- Motivation to work independently, but with the ability to work as part of a team with specialists at the Peter Mac and at NICTA
- Excellent written and verbal English communication skills

For further information regarding the project or to submit an Expression of Interest, applicants are invited to contact Dr Hayley Reynolds: Hayley.Reynolds@petermac.org

Further information about the PhD application process and doctoral study in the Sir Peter MacCallum Department of Oncology, The University of Melbourne, can be obtained from http://research.mdhs.unimelb.edu.au/prospective-RHDs, or email the Graduate Researcher Administrator at Peter Mac: caroline.owen@petermac.org.