

The University of Newcastle PhD Scholarship



Scholarship Description

Does the initial treatment plan predict doses delivered to normal tissues...

The University of Newcastle is offering a PhD scholarship funded by the Cancer Council NSW in the research area of adapting treatment plans for cancer radiation therapy.

The scholarship is a full stipend scholarship however top-up scholarships for candidates who have been awarded and APA or University of Newcastle Scholarship would be considered.

Radiation therapy treatment planning seeks to design the treatment for a patient so as to maximize dose to the tumour to ensure outcome, and minimize dose to healthy organs to reduce side-effects. The planning is based on MRI and CT scans to define the patient anatomy. However, such planning does not take into account the possibility of change or movement in the patient's anatomy over the course of the treatment. The doses received by the patient could therefore be very different to those planned, compromising the outcome and increasing the side-effect profile.

This project will develop new and/or improved methods to take account of uncertainty arising from patient change/movement. Methods to determine delivered doses using MRI and CT scans acquired throughout the treatment course and to adapt treatments to account for this will be developed. This project is a collaboration between University of Newcastle/Calvary Mater Newcastle and CSIRO Biomedical Imaging Research Group, Brisbane. This student would be based within the Radiation Oncology Department of the Calvary Mater Hospital, and will be supervised by Associate Professor Peter Greer (http://www.newcastle.edu.au/staff/research-profile/Peter_Greer/). Close collaboration on the project will also take place with CSIRO (http://aehrc.com/biomedical_imaging/) where a postdoctoral researcher will develop computer algorithms for the project. The medical physics research group is one of the most active in Australia with three postdoctoral researchers and several RHD students. We have successful collaboration with local and international research groups.

Availability

This scholarship is offered for 3 years. Applications are open until **30 June, 2011**. The scholarship is available for study in the School of Mathematical and Physical Sciences at the University of Newcastle. It is required that your study starts no earlier than **1 July, 2011** and no later than **15 December, 2011**. For further information on the School and the University, refer to enclosed sections below, or go to <http://www.newcastle.edu.au/school/mathematical-physical-sciences/> or <http://www.newcastle.edu.au/>. For further information about Newcastle, refer to sections below, or visit <http://www.visitnewcastle.com.au/visitnewcastle.asp>.

Payment Information

The total value of the full scholarship is AUD22,860 per annum, comprising a per annum stipend, to be used for living expenses. A top-up scholarship would be paid at the rate of AUD12,500 per annum. Funding for conference attendance is also available. This scholarship is paid fortnightly for the period of 3 years.

Applicant Attributes

The successful applicant will hold an undergraduate degree, and have undertaken some form of preliminary research training in Mathematics, Physics, Computer Science, Engineering, or related discipline. Experience and/or a strong interest in Radiation Physics and/or Oncology would be an advantage. Strong mathematical skills are essential, and computer programming skills are highly desirable. A can-do attitude, and excellent communication skills, will also go a long way to making you the successful applicant.

Eligibility

This scholarship is for study in Australia for those who have achieved Honours 1 or equivalent, or Honours 2a or equivalent, in their undergraduate degrees, or who have an appropriate higher qualification. Students who have taken Bachelor of Science degrees will need to have taken an Honours year or similar further study. Engineering students can apply immediately after completion of their Bachelor's degree, provided their Honours score is sufficiently high. International students will have to meet equivalent standards as well as the University's English proficiency policy. International students will also require funding for tuition fees or apply for and receive a tuition fee scholarship from the University.

Application Details

To apply for this scholarship please send your CV, together with an academic transcript showing details of all courses you have taken, the grades you were awarded, an interpretation of those grades, and the names and contact details of at least two people who can provide confidential references, to the address shown below. If your transcript is not in English, please provide an English translation. If you have completed a thesis or other publications, please feel free to include them in the email application. Include details of your computer programming skills and experience, your mathematical training and background, and any experience you have with modelling and solving industrial problems.

The successful candidate will also need to apply for admission (if not already enrolled). Admission application information can be found at: <http://www.newcastle.edu.au/research/research-higher-degree-study/index.html>

Main Contact

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Web Site: <http://www.newcastle.edu.au/students/research-higher-degree/scholarships/available-scholarships.html>