



Waterford Institute of Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LAIRGE

Postgraduate Scholarship Information Sheet

Scholarship title	Circulating angiogenic lymphocytes and vascular repair potential in age-related frailty
Reference number	WD_2017_PhD_012
Supervisor(s)	Dr Michael Harrison, Dr Edel McNeela, John Cooke (UHW) and Ronan Murphy (DCU)
Research Group	Pharmaceutical Molecular and Biotechnology Research Group
Department / School	Dept of Science, School of Science and Computing
Duration	4 years
Status: Full-time / part-time	Full-time
Funding information	Funding agency: Waterford Institute of Technology Funding programme: WIT PhD Scholarship
Value of the scholarship (per annum)	Stipend: €10,000 Fees: €4,500 Research costs: €2,000
Teaching requirement (if any)	Two hours of academic development activities per week during the academic year in line with scholarship requirements
Closing date and time	Monday 24 th April 2017 at 5pm GMT
Commencement date	1 st September 2017

Post summary

Applications are invited for a PhD student who will undertake a 4 year structured PhD in the Department of Science at Waterford Institute of Technology.

Title: Circulating angiogenic lymphocytes and vascular repair potential in age-related frailty

Summary: Although the problems associated with age-related frailty are well recognised, less recognised are the cardiovascular problems including cognitive decline and vascular dementia. Although primarily regarded as immune cells, certain T lymphocyte subsets appear to play a role in maintaining vascular (blood vessel) health. Other recently identified T lymphocytes appear to be involved in inflammation, an important feature of the vascular problems associated with frailty. Other features of these cells can indicate a deterioration in function with age. The primary purpose of this research is to consider a role for the various cell subsets, particularly the vascular subset, in frailty. We propose to compare T lymphocyte subsets in frail, non-frail and vigorously active older adults but to include as a reference group young adults, so that the full age and functional spectrum is profiled. We hope to identify a specific frailty profile relevant to vascular health that can then be targeted with exercise, nutritional or pharmacological interventions. A secondary purpose of this research is to analyse the full range of proteins released by the vascular T lymphocytes compared to non-vascular T lymphocytes. This will involve isolating both subsets from blood, growing them in the lab and analysing the proteins they release.

Standard duties and responsibilities of the scholarship

- Undertaking the research project as described
- Collecting some data and research samples in University Hospital Waterford at times suitable to research partners and participants
- Completing the structured PhD training modules and any other training agreed with supervisors
- Assisting in the maintenance of the research laboratories and apparatus
- Assisting in the maintenance of cell lines, sometimes out of hours
- Liaising with research partners in University Hospital Waterford and Dublin City University and spending time on site there where necessary

Person specification

Qualifications

Essential

- Applicants should hold or expect to attain, as a minimum, a 2.1 Honours degree¹, or equivalent, by the 1st of August 2017, in which cell biology or health science is a major component

Skills & Competencies

Essential

- Excellent scientific writing and data analysis skills (essential)

Desirable

- Experience culturing human mammalian cells
- Experience undertaking research with human volunteers

Applicants whose first language is not English must submit evidence of competency in English, please see [WIT's English Language Requirements](#) for details.

Further information

For any informal queries, please contact Dr Michael Harrison at mharrison@wit.ie

For queries relating to the application and admission process please contact the Postgraduate Admissions Office via email pgadmissions@wit.ie or telephone +353 (0)51 302883.

Website: www.wit.ie

Application procedure

Please download the Research Postgraduate Application Form from the WIT Website.

Any queries relating to the application process should be emailed to pgadmissions@wit.ie.

¹ If undergraduate examination results are not known at the time of application, WIT may make a provisional offer of a scholarship on condition that the applicant's bachelor's degree results is a first class or upper second-class honours.

The Institute may decide to interview only those applicants who appear from the information available, to be the most suitable, in terms of experience, qualifications and other requirements of the post.

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