



# TUS

**Technological University of the Shannon:**

**Midlands Midwest**

Ollscoil Teicneolaíochta na Sionainne:

Lár Tíre Iarthar Láir

**POSTGRADUATE RESEARCH OPPORTUNITY**

## **Project Title: Strategies to Increase Statistical Power in Sports Science Research**

**Project Description:** Underpowered designs are common within applied sports science research. Statistical power, the probability of detecting a statistically significant effect when there is one to detect, can be increased by increasing the number of participants in a research study (increasing sample size) and/or reducing the variability within measures. Increasing statistical power enhances the ability to detect effects with greater precision and the ability to detect smaller effects, which are sometimes missed in sports science research. This project seeks to investigate the feasibility of a variety of strategies to increase statistical power in sports science research such as manipulating trial size; utilising a “big team science” approach and a “portable lab” approach to improve recruitment; increasing the efficiency of physical performance testing methods (speed and strength measures); and reducing variability within outcome measures through improved experimental control and/or covariate analysis. Such strategies can be used to improve the quality of sports science research throughout Ireland and internationally particularly in the female athlete population that has traditionally been underrepresented within the sports science literature. This project will also involve a 14-week sports science placement with Athlone Town AFC Senior Women’s team. It is expected that the successful candidate will apply the identified strategies to conduct a high-powered study to answer a specific research question. The exact research question will be developed by the candidate in conjunction with the supervisory team and Athlone Town AFC.

**Duration of Project: 48 months**

**Funding Agency:** Funding Agency: TUS RISE Scholarship comprises of a monthly stipend, materials budget and postgraduate fee for the duration of the award only.

**Type of Degree Offered: PhD**

**Minimum Qualifications/Experience Necessary/Any Other Requirements:**

### Essential Criteria

Minimum classification of 2.1 honours or equivalent in a related degree (e.g. Sport & Exercise Science)

### Desirable Criteria

An interest in research methods in sports science.

A Master’s degree in a relevant area will be an advantage.

Experience in athlete performance testing.

Interest and experience in women’s team sport, particularly soccer.

IELTS [International English Testing System] Applicants must have a minimum of 6.0 with no component score less than 6.0.

**Research Supervisors:** Dr Robin Healy, Dr Ciarán Ó Catháin, and Dr Eoghan McNeill

**For further information, please contact:** Dr Robin Healy ([robin.healy@tus.ie](mailto:robin.healy@tus.ie))



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**HEA**

AN TÚDARÁS um ARD-OIDEACHAS  
HIGHER EDUCATION AUTHORITY

TU RISE is co-financed by the Government of Ireland and the European Union through the ERDF Southern, Eastern & Midland Regional Programme 2021-27 and the Northern & Western Regional Programme 2021-27



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Closing date for receipt of completed application form is 5pm on Thursday 20<sup>th</sup> June.  
Interviews will take place within subsequent weeks.

**Download TUS RISE application form here:**

<https://tus.ie/rdi/research/office/funded-research/>

**Please reference the project title in all correspondence**



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