



PhD Studentship

Exploring sex-based differences in ligament development and maturation: Do they contribute to tissue vulnerability?

Research group/ Discipline/ School: Rolfe Lab, Zoology, School of Natural Sciences, Trinity College Dublin, the University of Dublin

Lead supervisor: Dr. Rebecca Rolfe

Co-supervisor: Prof. Paula Murphy

Location: Zoology, School of Natural Sciences, Trinity College Dublin, College Green, Ireland.

Funder: Anatomical Society of the UK and Ireland, Anatomical Society Studentship

Start Date: 1st September 2026

Project Details:

We invite applications to doctoral research to investigate sex-based differences in ligament development and maturation and to determine their contributions to tissue vulnerability. This research addresses a critical gap in musculoskeletal biology and aims to explain variations in injury susceptibility between sexes. This studentship is supported by the Anatomical Society of the UK and Ireland to be based on a full-time basis in the Zoology Discipline, School of Natural Sciences in Trinity College Dublin under the supervision of Dr. Rebecca Rolfe (*Lead supervisor*) and Prof. Paula Murphy (*Co-supervisor*).

This project seeks to address a critical and unexplored gap in musculoskeletal biology; sex-based differences in ligament development and maturation. While clinical data reveal that males experience a higher volume of ligament injuries, females are observed to be at a higher risk of injury, yet the anatomical and biological basis for this disparity remains unclear. This study aims to fill that gap through four interconnected objectives that include structural, molecular, biomechanical and mechanoregulatory investigations. The project will characterise the structural hallmarks of ligament maturation, aiming to uncover the molecular mechanisms driving ligament maturation and assess sex-based variation. Experiments will assess sex-based differences in ligament strength and investigate the role of embryonic motility in ligament maturation. This project will use animal models of musculoskeletal development and maturation, examining morphological, mechanical and molecular changes.

Candidate Qualifications

Candidates should have a bachelor's degree (minimum upper second-class honours (II.1) grade or equivalent) in biomedical or biological sciences, anatomical sciences, molecular biology, genetics, biomedical engineering, or a closely related discipline.

Essential candidate attributes

- Strong foundations in animal biology preferably having specialised in developmental biology, anatomy, physiology, bioengineering, biomedical sciences or molecular biology, or closely related subject.
- Excellent written and oral communication skills in English.
- Very good collaborative skills.

Desirable candidate attributes

- A Masters degree in a relevant field.



- Laboratory based research experience in histological, molecular or bioengineering research techniques an advantage.
- Publications or significant project work demonstrating research potential.

Details of the Award:

Duration of funding: 3 years FTE (University fees at EU rate and Stipend for 3 years)
The Anatomical Society PhD Studentship funded by the Anatomical Society of the UK and Ireland, includes tuition fees at the 'EU student rate' and an annual tax-free maintenance allowance (stipend), euro equivalent of £20,780* per annum for 3 years. (**Effective rate as of 01.10.25, Note these amounts are reviewed annually, so may change for academic year beginning 01.10.26.*) **NOTE:** More details relevant for eligibility for EU fees are available [here](#).

An additional conference allowance will be available to attend Anatomical Society meetings.

Application Procedure

Email applications and informal enquiries to: Dr Rebecca Rolfe (rebecca.rolfe@tcd.ie). Full applications should be submitted in a single PDF document with 'Anatomical Society PhD' in the email subject line and should include the material below.

1. **Cover letter** (one page) addressing your motivation and how your qualifications, experience, and background would make you a suitable candidate
2. **Curriculum vitae** to include the names and contact details of **2 referees** (including email addresses)

Viable applicants will be shortlisted for interview soon thereafter.

Deadline 27th March 2026