**PhD Scholarship Advertisement**

Fully Funded PhD Scholarship in

Midios: microRNA in Diabetic Osteopathy

College of Medicine, Nursing and Health Sciences

School of Medicine

Applications are invited from suitably qualified candidates for a full-time position as PhD Student at the University of Galway, Ireland. This position is funded by Research Ireland and is available from 1 September 2025 to contract end date of 28 February 2029.

**University of Galway**

Located in the vibrant cultural city of Galway in the west of Ireland, the University of Galway has a distinguished reputation for teaching and [research excellence](https://www.universityofgalway.ie/our-research/).

For information on moving to Ireland please see [www.euraxess.ie](http://www.euraxess.ie).

**Detailed Project Description**

This project is a Research Ireland-funded collaborative investigation including teams with expertise in cell biology, molecular biology, biomedical engineering, clinical medicine and computational biology. The team aim to create a novel, targeted therapy for type 2 diabetes mellitus (T2DM)-induced osteopathy. T2DM involves a paradoxical osteopathy where an increase in bone mineral density results in fragility fractures. Fractures in individuals with T2DM take longer to heal, reduce mobility and elongate hospital stays. This team will molecularly characterize the osteogenic bone marrow mesenchymal stromal cells from people living with or without T2DM, then correlate those changes with biomechanical changes in the bone. We will then create molecular therapies to mediate the impact of T2DM on bone and assess its efficacy.

The successful candidate can expect to work closely with a research assistant, two PhD students and their co-supervisors, Dr. Cynthia Coleman, Dr. Kasia Whysall and Dr. Linda Howard. This individual must be 1) highly motivated with strong technical skills and 2) have an interest in applied molecular biology. Applicants should have the capability to work both independently and collaboratively to design and execute an experiment, analyze experimental outputs and to collaborate with the greater project team.

The aim of this PhD Project is to perform in vitro screening of potential molecular therapeutics followed by in vivo evaluation of their efficacy to mitigate the negative impacts of T2DM on osteoprogenitors. The PhD candidate will establish and validate an in vitro model, screen new therapeutics using that model, then perform an in vivo assessment of therapeutic efficacy. They must be engaged and dedicated to meet project deadlines and produce high-quality reliable data. This is a structured PhD and will require formal modular training in parallel to research activities in years 1 and 2. The duties associated with this post include:

• Liaising between the cell biology and molecular biology teams

• Establishing an in vitro model for therapeutic screening

• High throughput screening of several promising molecular therapeutics

• Conducting an in vivo study to evaluate the molecular therapeutic’s efficacy

• Culturing primary human cells and cell lines

• Conducting molecular biology assays

• Creating and validating viral delivery systems

• Optimizing protocols and SOP writing

• Maintaining organized records of experimental design and outputs

• Supporting the My Green Labs initiative

• Participating in all health and safety related activities, including writing risk assessments and record keeping

• Adhering to project timelines

• Report writing

• Manuscript and thesis writing

• Presenting findings at professional society meetings

• Working closely with other team members as part of a laboratory community

**Living allowance (Stipend):** €25,000 per annum paid for by Research Ireland [tax-exempt scholarship award].

**University fees**: Research Ireland funding support is in place for 4 years of fees.

**Start date**: 1 September 2025. This is not negotiable. Please consider your own personal requirements to give notice to a current employer and/or time required to relocate before applying.

**Academic Entry Requirements:**

Essential Requirements:

**•** BSc or MSc qualification in the biologic sciences, preferably cellular biology, graduating with high honours (1.1 or over 70%)

* High level of spoken and written English and English comprehension

• Experience with molecular biology

• Willingness to participate in in vivo experiments

• Experience with adherent cell culture

**•** Evidence of qualitative and quantitative skills

• Evidence of capacity to learn technical skills, then perform the same tasks independently, reproducibly

• Evidence of highly detailed, accurate record keeping

• Excellent time management, written and oral communication skills

• Evidence of interpersonal skills

• Capacity for creative, lateral thinking, problem solving and troubleshooting

Desirable Requirements:

• Experience with mammalian tissue culture

• Experience with RNA or viral technologies

• Experience with biochemical assays, molecular biology skills

• Experience with in vivo models and output measures

• LAST Ireland certification or EU equivalent demonstrating knowledge of best practice in in vivo research

• Evidence of proactivity and ownership over a lab-based project

• Prior knowledge of osteogenesis, bone composition

• Strong motivation to work in the field of orthopaedics

**To Apply for the Scholarship:** Email a cover letter and CV in one PDF file with your name as the file name to [cynthia.coleman@universityofgalway.ie](mailto:cynthia.coleman@universityofgalway.ie). Your CV must include the contact details of 2 referees. A statement similar to “references furnished upon request” only delays processing of applications and will not be accepted.

**Contact Name:** Dr. Cynthia Coleman

**Contact Email:** cynthia.coleman@universityofgalway.ie

**Application Deadline:** 23 May 2025 at 17:00 (Irish time 24hr format)

**Primary Supervisor name**: Dr. Cynthia Coleman

**Co-Supervisor names:** Dr. Linda Howard and Dr. Kasia Whysall