

Post Specification

Post Title:	PhD Position 2: Investigating Microbial and Chemical Safety of Wastewater Treatment Systems
Post Status:	Full-time.
Research Group / Department / School:	Civil, Structural and Environmental Engineering, School of Engineering, Trinity College Dublin, the University of Dublin
Location:	School of Engineering, Trinity College Dublin, the University of Dublin, College Green, Dublin 2, Ireland
Reports to:	Professor Muhammad Ali
Terms & Conditions:	annual stipend of €25,000 and a further €5,750 will be contributed to the annual fees for up to four years
Hours of Work:	9 – 5pm, Mon - Fri
Closing Date:	12 Noon (GMT), Monday, January 13, 2025

NOTE: Applicants must have been resident in an EU member state for 3 out of the last 5 years to be eligible for EU fees

Post Summary

The Department of Civil, Structural, and Environmental Engineering at Trinity College Dublin is seeking applications for three PhD studentships starting in March 2025. Each studentship will be dedicated to a specific work package within a cutting-edge project on sustainable wastewater treatment. Selected candidates will join an active, multidisciplinary research group led by Prof. Muhammad Ali, with expertise spanning environmental modeling, wastewater treatment, microbial ecology, and applied bioinformatics. This PhD position will focus on evaluating the microbial and chemical safety of treated effluents from various wastewater treatment systems, including septic tanks. The successful candidate will conduct in-depth analyses of microbial indicators—such as pathogenic bacteria and antimicrobial resistance genes—as well as investigate emerging contaminants, including microplastics, antibiotics, and PFAS. This research aims to ensure effluent safety, thereby contributing to public health and

environmental protection. The role will generate essential findings for peer-reviewed publications and provide critical insights into the sustainable management of wastewater treatment systems. This position will be supervised by Prof. Muhammad Ali, with co-supervision by Professors Laurence Gill and Patrick Morrissey.

Standard Duties and Responsibilities of the Post

- Conduct microbial and chemical safety assessments of treated effluents from various wastewater treatment systems.
- Evaluate microbial pollutants, including pathogenic bacteria and antimicrobial resistance genes, to determine effluent safety.
- Examine contaminants such as microplastics, antibiotics, and PFAS using specialized analytical techniques.
- Prepare findings for peer-reviewed publications and contribute to a final report on microbial and chemical safety.

Funding Information

This project is financially sponsored by Irish Environmental Protection Agency (EPA) and each PhD will get an annual stipend of €25,000 and a further €5,750 will be contributed to the annual fees for up to four years.

Qualifications

- MSc in Microbiology, Environmental Science, Environmental Chemistry, or a related field.
- Experience in microbial safety assessments and analysis of emerging chemical contaminants.
- Skilled in operating analytical instruments and interpreting data.
- Knowledge of environmental standards and wastewater treatment safety practices.

Skills & Competencies

- Strong analytical and communication skills (written and oral English).
- Ability to work both independently and as part of a team.
- Capacity to supervise graduate students, prepare high-impact manuscripts, and present findings at national and international conferences.

Application Procedure

Interested candidates are invited to complete the application form available at this link <https://forms.office.com/e/dD2nv35Gac>. Additional documents or information may be requested as needed. The deadline for submission is **Monday, January 13, 2025**. Only shortlisted candidates will be contacted for an interview.

If you have any questions regarding these positions, please contact Professor Muhammad Ali at **Muhammad.Ali@tcd.ie** and include the relevant PhD position title in the subject line.

Further Information for Applicants

URL Link to Advertisement	www.tcd.ie/engineering
URL Link to Human Resources	https://www.tcd.ie/hr/

