



**Trinity College Dublin**

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

## **Cross-Site Environmental Exposure Science for Nature-Based Solutions and Child and Adolescent Health**

### **Trinity Research Doctorate Award 2026-2030**

We invite applications for a fully funded PhD studentship in cross-site environmental exposure science, evaluating nature-based solutions (NBS) and their effects on child and adolescent health across three climate-sensitive settings. This PhD is part of a larger interdisciplinary project, *Implementing and Evaluating Nature-Based Solutions for Health in Children and Adolescents*, funded through the AIB Trinity Climate Hub Trinity Research Doctorate Award (TRDA) scheme.

#### **The Project**

Nature-based solutions are increasingly used to manage drought, flooding, overheating, and environmental degradation, with potential health benefits. However, evidence for the health benefits of NBS remains limited, particularly for children and adolescents. Childhood and adolescence are sensitive developmental periods when diet and activity patterns consolidate, and around one-third of lifetime mental disorders begin by age 14. NBS may offer a preventive lever for child and adolescent health, but health benefits cannot be assumed from implementation alone.

This project will generate policy- and practice-relevant evidence by treating NBS as a measurable exposure intervention and linking environmental change to changes in child and adolescent mental health, physical health, and health-related behaviours across three climate-sensitive settings: Madagascar, Ireland, and the Netherlands.

The successful applicant will be fully funded (see below) and will join a team of three other PhD researchers and supervisors at Trinity College Dublin spanning multiple disciplines.

#### **This PhD**

This PhD provides the common environmental exposure science backbone for the programme, linking environmental and behavioural change to child and adolescent health outcomes across the three project sites (Madagascar, Ireland, and the Netherlands). The student will work closely with the three other PhD researchers throughout, providing the cross-site comparative evidence that ties the wider programme together.

The student will begin by leading a systematic review and meta-analysis of the effects of NBS on child and adolescent physical and mental health, with contributions from the other three PhD students. Building on this evidence base, they will then pair repeat environmental sampling with geochemical source tracing across the three sites to understand how the interventions change exposures through water, soils, and sediments, and to identify where contaminants, nutrients, and sediment loads originate and how they move through local systems. Alongside this environmental work, the student will assess behavioural pathways and engagement, testing whether involvement in monitoring and local decision-making shifts risk perception, knowledge, and stewardship in ways that predict sustained use and maintenance, in a sample of community members at each of the three sites. The student will also lead the development of a shared data dictionary across the four PhD projects to support cross-site comparability and integration. Together, this work will create a shared, comparable way to evaluate what changed – both environmentally and behaviourally – across three different sites and NBS.

## **Supervision**

**Primary supervisor:** Prof Quentin Crowley (School of Natural Sciences)

**Co-supervisor:** Dr Kristin Hadfield (Trinity Centre for Global Health, School of Psychology).

## **Essential criteria:**

- An undergraduate degree (2.1 or equivalent) in earth sciences, environmental geochemistry, environmental science, geology, hydrology, hydrogeology, environmental engineering, biogeochemistry, or a related discipline
- Willingness to undertake fieldwork at all three project sites (Madagascar, Ireland, and the Netherlands), with extended periods at each across the programme
- Strong interpersonal and cross-cultural communication skills
- An interest in working across disciplinary boundaries (including with colleagues in psychology, medicine, and engineering) and willingness to engage in interdisciplinary dialogue

## **Desirable criteria:**

- A master's degree in a relevant subject area
- Prior experience with environmental sampling of water, soils, and/or sediments, including associated laboratory analysis
- Experience with geochemical source tracing, isotope geochemistry, or related provenance approaches
- Familiarity with GIS, spatial analysis, or environmental data management

- Experience conducting systematic reviews or meta-analyses
- Working knowledge of French, Malagasy, and/or Dutch
- Experience working with children and/or adolescents in a research or practice context
- Knowledge of nature-based solutions, climate adaptation, water security, or environmental health
- Familiarity with theory of change development or logic models

### **Details of the Award**

The student's tuition will be fully paid, and they will receive a €25k per annum tax-free stipend for 4 years. The successful applicant must be registered and ready to commence in autumn 2026.

### **Details of Application**

Please send a CV, cover letter, and a one-page research proposal to Prof Quentin Crowley ([crowleyq@tcd.ie](mailto:crowleyq@tcd.ie)) and Dr Kristin Hadfield ([Kristin.hadfield@tcd.ie](mailto:Kristin.hadfield@tcd.ie)) by **17 June 2026**. Your proposal should work within the framework of the project as described above; we are not looking for an entirely new study design. Rather, we want to understand how you would approach this work: what questions or methods interest you most, what relevant experience you would draw on, and what ideas you might bring to the work.

Applicants will be shortlisted for interview soon thereafter, with interviews expected in late June. The successful applicant will then have to apply directly to the relevant School following the Trinity College PhD application process.