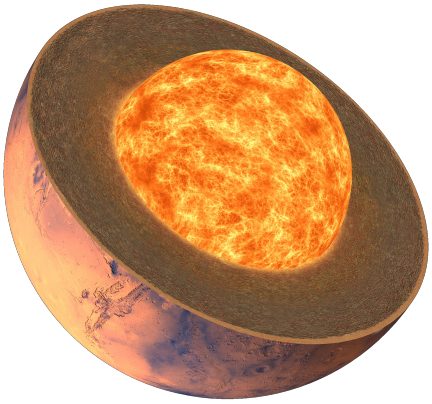
PhD position in Planetary/Experimental Geochemistry at University College Dublin



We are recruiting for a **four-year fully-funded PhD project** in geochemistry at the School of Earth Sciences, University College Dublin as part of the Research Ireland Pathways project "Quantifying core formation conditions with isotopic tracers". The PhD project is focused on the **accretion and differentiation of terrestrial planets** studied with **isotopic tracers**. The aim is to calibrate and use various stable isotopic systems (e.g. Fe, Si, Ni, Sn isotopes) at the National Centre for Isotope Geochemistry (NCIG) at UCD, to characterise isotopic ratios in a variety of experimental, meteorite and terrestrial samples.

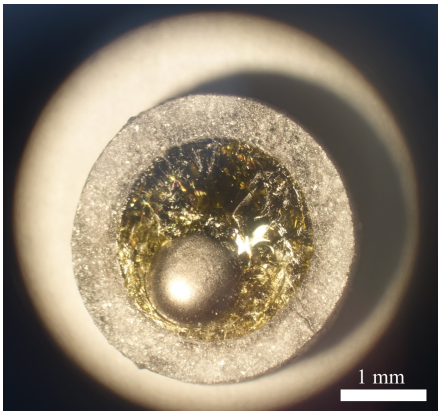
Quantifying core formation conditions with isotopic tracers

This four year project focuses on the segregation of a deep metallic core during the early history of rocky planets, which has a major impact on the composition of their crust and mantle. Core–mantle equilibration will be reproduced using world-class high-pressure experimental apparatus at the University of Bayreuth, while the isotopic compositions of the experimental products will be measured using the recently installed Thermo Scientific Neoma MS/MS–MC–ICP–MS at the NCIG. With knowledge of the elemental and isotopic distribution behaviour of core-forming elements, we can tackle some fundamental questions about Earth and other rocky planets including the composition of their cores, of their building blocks, the physical and chemical conditions of their differentiation and also whether different types of core formation can explain isotopic differences between planets of the solar system. The PhD student will join a core team composed of themselves, principal investigator Dr. Edith Kubik and co-supervisor Dr. Thomas Belgrano (UCD), working with NCIG staff and collaborator Prof. Dan Frost (BGI, Bayreuth).

The PhD project

The doctoral project will focus on the calibration and performance of Fe and Ni isotopic measurements on synthesised experimental samples, as well as geological and biological reference materials, meteorites and terrestrial samples relevant to the project. The work will include:

- Chemical purification calibration for Fe and Ni isotopic analysis.
- Work in a clean lab, sample digestion and purification at NCIG.
- Elemental trace measurements by wet chemistry using q–ICP–MS.
- Isotopic measurements using the Neoma MS/MS–MC–ICP–MS.
- Statistical analyses, data interpretation in isotope cosmo- and geochemistry.



The full-time position is funded for four years, including a tax-free stipend of 25,000 €/year, fully paid tuition fees for those who meet the **UCD criteria for EU Fees**. The starting date is the 1st of September 2025.

Profile

The successful candidate will hold a MSc or BSc (Hons) degree in Earth Sciences or a closely related field. Experience in geochemistry and/or planetary research is valued. Other valued skills include statistical analysis, communication, team work and good written and spoken English.

Applications

Applications should be submitted using **this link** by the 16th of May and include: a CV, a cover letter, a list of publications (if applicable), and the contact information for two references.

For more information, please contact me directly at: **edith.kubik@uni-bayreuth.de**

UCD School of Earth Sciences
Scoil na nDomhaneolaíochtaí
UCD

ncig national centre for isotope geochemistry

Taighde Éireann
Research Ireland