

ROTTnROCK is hiring

We are hiring TWO fully-funded four-year PhD positions, based in University College Dublin. Modelling the role of hydrothermal alteration in volcanic instability

We are recruiting **two fully-funded PhD candidates**, to begin in September 2025. The PhD positions are within the framework of the ROTTnROCK project, a European Research Council funded grant that aims to evaluate how **hydrothermal alteration** impacts volcanic hazards, including flank collapse, dome collapse, and caldera fault reactivation. The successful candidates will work specifically on **numerical modelling** (both finite element method and discrete element method) to assess hydrothermal alteration and hazard at specific case studies.



The primary supervisor on this project will be Dr. Claire Harnett at University College Dublin, and you will collaborate closely with the other project leads (Thomas Walter – GFZ, Potsdam - specialising in remote sensing; Valentin Troll – University of Uppsala, Sweden - specialising in geochemistry; Michael Heap – University of Strasbourg, France - specialising in rock mechanics). You will therefore gain interdisciplinary experience that will include exchange visits with the other partners, and team field campaigns to volcanoes in and outside of Europe.

What could you bring to the role?

The successful candidates should have a keen interest in volcanology, and a strong background in a quantitative science (earth sciences, physical geography, geophysics, geology, geotechnics, engineering, physics), with a degree in a related discipline. Experience in scientific computing and coding (e.g., MATLAB and/or Python) is highly desirable. An MSc is advantageous, but not required. The successful candidates should be enthusiastic about international collaboration and overseas travel, including fieldwork at active volcanoes.



This project can be tailored to your interests and strengths. We anticipate that you will learn skills in experiment design, in 3D numerical modelling, and in the assimilation and interpretation of geophysical/geological data. You will have access to transferable skills training, as well as the opportunity to take taught modules as part of the structured PhD program at UCD. This training will help you develop a strong and varied set of skills to prepare you for your future career.

Finally, the successful candidates will become members of the Geohazard Research Group at UCD, with chance to interact with other PhD students, postdocs, and faculty members engaging in volcanological research. **This position includes a tax-free stipend of €25,000, paid tuition fees, as well as a budget for research costs of €5,000 per year.** Note, the project is open to both EU and non-EU candidates.

To apply: For informal queries, or to discuss your interest in the project, please contact Dr Claire Harnett (claire.harnett@ucd.ie) before applying. To apply, please send a CV (including details of two academic references) and a cover letter by email before **22nd January 2025**. For more information, see also www.rotnrock.eu and www.claireharnett.net.

Timescales:

Deadline for applications	22 nd January
Interviews	3 rd – 17 th February
Outcome	Before 3 rd March
Project commences	1 st September 2025