

PHD POSITION IN PALAEOONTOLOGY AT UGENT:

We are hiring a PhD student (4 years fully-funded) to work on a project at Ghent University in Belgium (UGent), investigating stable organic carbon isotope signatures of microfossils. The position is funded by the Research Foundation, Flanders (FWO) under the collaborative research grant “Recalibrating the base of the Palaeozoic food chain: towards a quantified link between progenitor plankton, the ancient carbon cycle and one of the largest mass extinctions in the history of life on Earth”.

Contract Type: Fixed Term 1 + 3 years, full-time

Position start date: negotiable, but preferably mid-late Autumn 2023

Duration: 4 years

Stipend: as per UGent scales

JOB DESCRIPTION

Position Summary:

Applications are invited for a four-year PhD researcher position investigating the base of the Palaeozoic food chain using **C isotopes of single planktic palynomorph specimens**. The position is funded by the Research Foundation, Flanders (FWO, www.fwo.be) and forms part of a new project by an international consortium, involving researchers at Ghent University, Utrecht University (UU) and the United States Geological Survey (USGS). The PhD student will be based at UGent (Belgium), undertaking frequent research visits to Utrecht (Netherlands) and Denver, (Colorado, USA). They will be **part of a tandem of two PhD students working on this FWO project** (one to be hired in 2023 and one to be hired in 2024), and will join a larger team of fellow PhD students working on related topics at UGent (Palaeozoic and Mesozoic teratological microfossils and their geochemistry). Supervisors are Thijs Vandenbroucke (UGent), Appy Sluijs (UU) and Poul Emsbo (USGS).

The project:

Marine phytoplankton grow via photosynthesis by fixing carbon from CO₂ in the atmosphere. Carbon (C) in these tiny organisms serves as the base of the food chain. The balance between the C returned to the atmosphere upon death and decay of these algae (and their consumers) and that sequestered and buried in sediments controls much of the Earth's C-cycle. Disruptions of this complex C balance may have triggered changes in the planet's climate, glaciation, and sea level that can be linked with mass extinctions. Carbon isotope compositions have been an essential tool in evaluating the balance of C stored in atmosphere/ocean and sequestered in sediments. Yet, the inability to measure C isotopes of individual species of the tiny, marine, organic-walled plankton has obscured a full understanding of this complex cycle. For much of the Palaeozoic, organic-walled microfossils (palynomorphs) are our only record of these vital processes at the base of the food web. Previous analytical limitations necessitated analyses of “bulk samples” that are complex organic mixtures. We are developing new analytical tools, capable of routinely and accurately measuring the C isotopes of single planktic palynomorph specimens, which will provide a more complete view of the C-cycle in deep time.

The successful candidate will help develop these methods for C-isotope analyses of organic walled microfossils (palynomorphs), and will eventually apply this new tool to carefully selected biogeochemical events in the Ordovician or Silurian, to unravel the processes that led to these dramatic, but poorly understood, perturbations of the C-cycle in deep time. The student will be trained in key analytical techniques including optical microscopy, scanning electron microscopy (SEM), and isotopic analyses. In addition to analytical research skills, the successful candidate will have opportunities to undertake training in transferable skills, to gain experience in mentorship, and to participate in fieldwork. The PhD Researcher will work closely with the PIs and other members of the wider team.

The student will join the team at a very exciting time, as part of a major expansion of our studies of new causative models for the Ordovician-Silurian biogeochemical events. The PIs and their teams represent a wide range of expertise for the student to draw on. The successful candidate will benefit from the PI's commitment to their career development and the joint PI's extensive global network of collaborators. For instance, the project will run in parallel with a recently funded [HFSP](#) Research project that includes researchers at the universities of Ghent, Nottingham, California- Berkeley, and Utrecht, and offers additional expertise in geology, palaeontology, biology and chemistry.

The [host lab](#) at UGent focuses on reconstructing environmental conditions and the evolution of life from ancient Palaeozoic times to the current Anthropocene. The group currently includes 10 PhD students and 1 postdoc working on various aspects of micropalaeontology, which will constitute a rich working environment for the successful candidate.

<https://www.ugent.be/we/geologie/en/research/organization/palaeontology-and-palaeo-environments>
https://www.instagram.com/palaeo_ugent/

JOB PROFILE

Key Duties and Responsibilities:

The position focusses on research but will also be considered as a period of training as the researcher will have dual goals in terms of the research project and their own career development. The researcher will be mentored by the consortium of PIs. It is expected that a researcher would spend not more than 4 years at the PhD level.

The primary focus of the PhD Researcher will be to conduct the specified programme of research; however, a particular emphasis during this stage should also include:

- to engage in appropriate training and professional development opportunities as required by the PI or University in order to develop research skills and competencies;
- to engage in the dissemination of the results of the research in which they are engaged, as directed by, with the support of and under the supervision of the PIs;
- to become familiar with the publication process;
- to acquire generic and transferable skills (including project management and postgraduate mentoring/supervision);
- to engage in the wider research and scholarly activities of the research group.

Essential Criteria:

The successful candidate will provide a cover letter demonstrating evidence that they meet the following essential criteria:

- Excellent scholarly results obtained during an MSc in Geology, Earth Sciences, Biology, Palaeontology, (Geo)Chemistry, or an equivalent degree in related fields pertinent to the research project. MSc degree required at the start of the appointment, but we accept applications by students currently in their final year.
- Good analytical and laboratory skills
- Ability to work as part of a(n international) team combined with an ability to manage tasks independently
- Excellent problem solving skills
- Excellent communication skills, particularly in English
- Strongly motivated and ambitious attitude

HOW TO APPLY

Informal enquiries can be made in confidence to Prof. Thijs Vandenbroucke, Department of Geology, UGent. Email: thijs.vandenbroucke@ugent.be.

Candidates should apply, in confidence, by submitting one single, **combined** application document to Thijs.vandenbroucke@ugent.be before noon 12.00 (Belgian Local Time) on **Monday, 29th May 2023**.

This application should contain the following items, **merged into a single .pdf document**:

- A cover letter
- Your CV
- The contact details of two referees (actual letters of support are accepted but not required at this stage)
- A copy of your diplomas and the full transcripts of the scores/results you have obtained during your degree(s); we strongly advise that you indicate your position in the cohort of students graduated the degree in your graduation year, if possible (note that this is an indicative criterion only)
- Students currently in their final year of their MSc are invited also to include a progress statement by their current academic supervisor

In addition, it has to contain a summary of your past achievements using an MS **Excel template** that can be downloaded here: https://users.ugent.be/~tvdenbro/Eval_Grid_PhD.xlsx

We reserve the right to reject applications that are incomplete or do not follow these guidelines, and to accept applications beyond the deadline if no successful candidates have been selected yet. Shortlists will be drawn up swiftly and interviews will normally be scheduled in June 2023. Initial interviews will be held via videoconferencing. All applicants who have submitted an eligible application (regardless of whether they make the shortlist) will be contacted about the result of their application.

GHENT UNIVERSITY IS AN EQUAL OPPORTUNITIES EMPLOYER
(<https://www.ugent.be/prospect/en>)