VRIJE UNIVERSITEIT BRUSSEL

Analytical-, Environmental & Geo-Chemistry (AMGC)

PHD POSITION

The AMGC group at the *Vrije Universiteit Brussel recruits a PhD student to work on project*

"Some like it hot": Exploring Earth's thermal maximum by reconstructing the spatial distributions of atmospheric temperature and moisture content throughout the Phanerozoic.

The study of past climates has elucidated our understanding of the Earth's system sensitivity to changes in solar, albedo and greenhouse forcing. Of particular interest is Earth's system sensitivity to high greenhouse (i.e., high pCO_2) and low albedo forcing (i.e., no large-scale ice caps) at the current effective solar flux, defined as Earth's "thermal maximum" or the "hothouse" climate state. Recent modelling efforts have been capable of reproducing the hot tropics, warm poles, and low meridional temperature gradient seen during the Paleocene-Eocene thermal maximum, a time when pCO_2 peaked between 1400 and 4000 ppm. However, the fundamental changes in the hydrological cycle in these models remain controversial, and difficult to test with existing geological data. This project will study Earth's thermal maximum using new records of atmospheric temperature and moisture content during the warmest periods of the Phanerozoic. These records will be generated using the oxygen, clumped, and triple oxygen isotope composition of pedogenic siderites from ancient continental marshes all over the world.

The PhD yearly contract is renewable for up to max. 4 years. Starting dates are flexible, preferentially Spring - Summer 2022. Applications will remain open until all positions are filled. Enthusiastic and motivated scientists are encouraged to apply. The PhD salary makes it possible to live comfortably in Brussels and includes benefits (transport, medical etc.).

For questions contact: Philippe Claeys (phclaeys@vub.be) & Joep van Dijk (joep.van.dijk@vub.be) by e-mail or more info : https://amgc.research.vub.be/en

WE ARE LOOKING FOR:

Candidates with a master degree in Geology, Earth Sciences or related field with a combination of the following:

- Scientific curiosity, open-mind,
- Smart, motivated & hard working
- Quick learner with creative and pragmatic problem-solving approach
- Skills in geochemistry, mass spectrometry paleoclimates, climate modelling
- Capability to work in English, team player

We propose a great working environment, with access to a large variety of analytical techniques, IRMS, HR-ICP-MS, MC-ICP-MS, SEM/EDX/WDX, µXRF, FTIR, etc.

HOW TO APPLY

Send your CV with a cover letter and the names of three references (in PDF) to Philippe Claeys and Joep van Dijk: phclaeys@vub.be & joep.van.dijk@vub.be