



HR EXCELLENCE IN RESEARCH

## Postdoctoral Researcher in Marine Geochemistry and Palaeoceanography

School of Geography and Archaeology

National University of Ireland, Galway

Ref No. NUIG 028-20

Applications are invited from suitably qualified candidates for a full-time, fixed term, three-year position as a Postdoctoral Researcher with the Discipline of Geography at the National University of Ireland, Galway. This position is funded by the Marine Institute of Ireland and is in association with the Bjerknes Centre for Climate Research, Bergen, Norway, and the National Oceanographic Centre at Southampton, UK. The term of contract is for a period of three years from the day of appointment.

### Job/ Project Description

NUI Galway seeks a highly motivated, high-potential applicant for a position as a Postdoctoral Researcher to work within the research project: *"Decoding Arctic Climate Change: From Archive to Insight"*, in short ACCAI.

In conjunction with Cruise CIAAN to the Nordic Seas in August-September 2020 on RV Celtic Explorer, project ACCAI aims to develop new palaeoceanographic tools that will enable us to monitor long-term processes in atmosphere-ocean CO<sub>2</sub> exchange and climate change. Specifically, ACCAI intends to determine how the signature of Essential Climate Variables (e.g. temperature, salinity, and the carbonate system) are recorded in the Nordic Seas and transferred into geologic archives (marine sediments). To track the climate signal from the water to the archive the successful candidate will combine a hydrographic survey in the Nordic Seas with the collection of live foraminifera collected via plankton tows and recently deposited foraminifera in surface marine sediments. Using new developments in isotope and trace element geochemistry, the fellow will then be able to tease out the climate signal recorded in the shells of the foraminifera.

The scientific objectives of ACCAI are unique as they will provide not only observation of modern Essential Climate Variables (ECV), but will allow us to look into the past to assess how ECV's have evolved since before record keeping began. This long-term perspective is crucial in order to deconvolve natural variability of the climate system from anthropogenic climate change. Improving our understanding of how the atmosphere-ocean climate system communicate ECVs today and in the past will aid us to better understand our environment and the environmental consequences of human activities.

Project ACCAI brings together researchers from, the University of Southampton, National Oceanographic Centre (Southampton, UK) the Bjerknes Centre for Climate Research (Bergen University, Norway) and NUI Galway. Cruise CIAAN and Project ACCAI are funded by the Marine Institute of Ireland.

**Duties:**

1. Participate in all scientific activities scheduled during Research Cruise CIAAN on RV Celtic Explorer (CE20009) scheduled from 24.08.2020-15.09.2020.
2. Provide improved regional salinity- $\delta^{18}\text{O}_w$  mixing lines filling key data gaps in global database
3. Derive new empirical relationships (w/reduced uncertainty) for determining past salinity and density anomalies in the key region for global deep water ventilation
4. Determine the effects of ecology (e.g. seasonality, depth habitat) on the geochemical signal recorded in the planktonic foraminifera *Neogloboquadrina pachyderma sinistral*.
5. Quantify vital effects that are known to impact several commonly used geochemistry proxies including Mg/Ca, B/Ca,  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$
6. Contribute to the Cruise Report to be submitted to the Marine Institute within three months of survey completion.
7. Disseminate findings in open-access high-profile journals and present at international conferences.
8. Prepare policy briefs of the current and past state of essential climate variables in the Nordic Seas based on analyses and results from cruise CIAAN and project ACCAI.
9. Become a member of the steering committee of the Network of Arctic Researchers in Ireland (NARI) to organize the first annual meeting of NARI hosted by NUI Galway in 2020.
10. Engage in public outreach.

**Essential Qualifications/Skills:**

- PhD in a relevant discipline (Geography, Marine Geology / Geosciences, Earth Sciences, or other)
- Demonstrated background in Trace and/or Isotope Geochemistry
- Demonstrated background in Palaeoceanography
- Excellent written and spoken English skills

**Desired Qualifications / Skills**

- Knowledge/Experience in modern planktonic foraminifera ecology and taxonomy.
- Previous experience in ocean research expeditions and operations (e.g. deployment of CTD, Multi-nets, Coring equipment).
- Knowledge/Experience in operating multi-collector inductively coupled plasma mass spectrometers, MC-ICP-MS) Inductively Coupled Plasma Mass Spectrometry ICP-MS and/or Delta V isotope ratio mass spectrometry, IRMS systems.
- High degree of computer literacy, data manipulation, and statistical analysis (e.g. Microsoft Office, Ocean Data view, R, Matlab, Grapher, etc.).
- Proven ability to work independently and proactively as a project leader
- A strong career commensurate publication record (number of articles in peer-reviewed international journals of good quality, lead authorships).
- Experience in organizing and participating in research activities (networks, applications for financing), communication skills (conference presentations, outreach) and faculty recommendations.

**Starting salary:** €37,874 to €40,222 per annum (public sector pay policy rules pertaining to new entrants will apply).

**Start date:** May/June 2020

**Continuing Professional Development/Training:** The Postdoctoral Researcher will have the support of the Researcher Development Centre (RDC) that provides support and continuing professional development opportunities for researchers at NUI Galway. The RDC mission is to create and foster a culture of continuing professional development (CPD) for researchers; to enable researchers to identify and achieve a range of skills suited to their personal career pathway; to signpost opportunities for researchers both within and beyond academia and to measure the impact of such training/CPD. The RDC fully supports the EU MISSION 'to facilitate the development of R1 (postgrad) and R2 (postdoc) researchers to become fully aware of their possible career trajectories and the existing range of career development opportunities open to them, thereby enabling them to make training and occupational choices and to take personal responsibility for the management of their own career'. The RDC aims to ensure that all researchers will have an Individual Development Plan, mentoring support, a full selection of training and professional development opportunities, career support and to showcase a wide range of career profiles from both academia and beyond academia. If suitable the Fellow may also enjoy participating in the innovative leadership development programme AURORA. NUI Galway's AURORA programme is a unique partnership initiative bringing together leadership experts and higher education institutions to take positive action to address the under-representation of women in leadership positions in the sector.

Further information on research and working at NUI Galway is available on [Research at NUI Galway](#) For information on moving to Ireland please see [www.euraxess.ie](http://www.euraxess.ie)

Further information about the Discipline of Geography is available at <http://www.nuigalway.ie/geography/>

**To Apply:** Applications to include a covering letter, CV, and the contact details of three referees should be sent, via e-mail (in word or PDF only) to Audrey Morley at: [audrey.morley@nuigalway.ie](mailto:audrey.morley@nuigalway.ie)

Please put reference number **NUIG-028-20** in subject line of e-mail application.

**Closing date for receipt of applications is 5.00 pm on Friday the 6<sup>th</sup> of March, 2020**

NUI Galway reserve the right to readvertise or extend the closing date for this post.

All positions are recruited in line with Open, Transparent, Merit (OTM) and Competency based recruitment

National University of Ireland, Galway is an equal opportunities employer

