PhD Opportunities in Climate Tipping Points

Applications are invited for 7 fully funded PhDs, starting October 2025.

Are you interested in helping to solve some of the most pressing issues in global climate change? Are you keen to develop advanced research skills that can equip you for a wide range of future careers? For these reasons and more, you may be an ideal candidate to apply for a studentship with the Advanced Research and Innovation Agency (ARIA) project ***VERIFY: Out Of Sample Testing For Early Warning Systems Using Past Climate***.

VERIFY's aim is to observe and understand massive changes (so-called tipping events) in the climate of the North Atlantic, namely the Greenland Ice Sheet and Subpolar Gyre, in the recent and geological past. Embedded in 6 institutions across the UK, and with partners in mainland Europe and the USA, VERIFY brings together experts in modern and palaeo-climate dynamics, high resolution and complexity modelling, with data scientists and statisticians. The project will develop Digital Twins of past tipping events, which will serve as a testbed for verifying whether tipping behavior can be predicted by Early Warning Systems (EWSs), forming a crucial component of an £81m ARIA-funded effort to develop these systems in the North Atlantic region.

Projects are available in a diverse array of disciplines, including social science, Earth System Modelling, ice and sediment core geochemistry, and dynamical systems and statistical analysis. Students will benefit from involvement in the broader project and interactions with researchers and fellow students across VERIFY and the wider ARIA 'Forecasting Tipping Points' programme.

Available projects

- **High-resolution geochemical analysis of Greenland ice cores to identify early warning signals of rapid climate change**, *British Antarctic Survey*, supervised by Liz Thomas (lith@bas.ac.uk), further details here.
- **Investigating past North Atlantic Subpolar gyre tipping points to improve early warning systems**, *Durham University*, supervised by Paola Moffa-Sanchez (paola.l.moffa-sanchez@durham.ac.uk), further details here.
- **Deciphering the dynamics of abrupt ocean change and climate tipping points**, *University of St Andrews*, supervised by Graeme MacGilchrist (gam24@st-andrews.ac.uk), further details here.
- **Evaluating early warning signals against past climate tipping points**, *University College London*, supervised by Chris Brierley (c.brierley@ucl.ac.uk), further details here.
- **Values and uncertainty in early warning of climate tipping points**, *University College London*, supervised by Erica Thompson, further details here.
- **How stable is the Greenland ice sheet? A view from the past**, *University of Leeds*, supervised by Lauren Gregoire (l.j.gregoire@leeds.ac.uk), further details here.
- **Back to the future: ice sheet collapse, ocean circulation slowdown and abrupt climate change**, *University of Leeds*, supervised by Ruza Ivanovic (r.ivanovic@leeds.ac.uk), further details here.

Further details

Deadline for applications: various in March, please see further details of each project. Shortlisted candidates will be invited to an interview shortly after the submission deadline.

Eligibility: Please note that the funder covers stipend and home fees only – international students will need to secure additional funding or cover the difference between home and international fees themselves. The project will assist with applications for additional funding for exceptionally strong international students.

Please direct queries to the lead supervisor of each project(s) of interest.