

From: Eike Mueller, University of Bath, 24/10/2023

Subject: PhD studentship in Department of Mathematical Sciences (NERC GW4+ DTP)

Topic: Accelerating NWP models with higher-order hybridised multigrid

We are looking for an enthusiastic student who would like to work at the interface between applied mathematics, scientific computing and computational fluid dynamics. The goal of this NERC funded PhD project at the University of Bath is to develop new algorithms for numerical climate and weather forecasting. More specifically, we aim to design novel multigrid solvers for advanced high-order finite element discretisations in atmospheric fluid dynamics. The project is co-supervised by Dr Jemma Shipton (Exeter) and Dr Thomas Melvin (UK Met Office). While most prototyping will be done in the Firedrake framework, an important aspect of the project is the implementation in the Met Office next generation model code, with the aim of studying the performance of new algorithms for real-life setups.

The ideal candidate should have a strong background in numerical mathematics (such as iterative solvers and preconditioners, finite element methods, discontinuous Galerkin discretisations) and be enthusiastic about writing high-quality computer code in an interdisciplinary context.

For further information and to apply see the advert

at <https://www.findaphd.com/phds/project/nerc-gw4-dtp-project-accelerating-climate-and-weather-forecast-models-with-higher-order-hybridised-multigrid-solvers/?p162533>

The application deadline is 9 January 2024 for a start in the autumn of 2024; the position is funded for 3.5 years.