NCAS-CMS Software Framework Scientist - Further information

NCAS[1] and CMS[2]

The National Centre for Atmospheric Science (NCAS) is a NERC funded research centre whose purpose is to provide NERC with national capability in atmospheric science research. NCAS provides "scientific facilities for researchers right across the UK to enable excellent atmospheric science on a national scale. These include a world-leading research aircraft, a ground-based instrumentation pool, access to computer models and facilities for storing and accessing data." Computational Modelling Services (CMS) is a unit within the Models and Data Division of NCAS whose role is to enable Climate, Weather, and Earth-System numerical simulation and data analysis.

Location

We are located in the Dept of Meteorology at the University of Reading. We have very recently moved into a newly refurbished space in the Harry Pitt building with roomy offices, excellent conference facilities, and comfortable common areas.

The CMS team occupy adjacent offices making for a very collegial and pleasant working atmosphere and are in close proximity with NCAS research scientists with excellent access to the newest advances in research in Atmospheric and Earth-System science.

Facilities

The University is conveniently situated close to Reading town centre; there is fast frequent rail service to London and the South West. The university campus is spacious with extensive green fields, lakes, and associated wildlife; it boasts a sports centre, several eateries, and an on-site hotel.

Areas of work

NCAS-CMS provides computational services for the entire UK academic atmospheric science research community and is well respected throughout. Our remit is very broad and dynamic as the needs of the community shift in response to advances in modelling capability and capacity through developments in software and hardware.

We support the use of high-performance computers (HPC) in the research modelling effort through providing expertise in the computational and workflow infrastructure, in the numerical models themselves, and in downstream data management and analysis. We develop major software systems in-house for deployment on multiple platforms and support third-party components on commonly used resources. We have an eye on the future with exascale computation looming, and with containerization and virtualization playing an ever increasing role in many aspects of our work.

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[1] https://www.ncas.ac.uk/en/about-ncas

[2] http://cms.ncas.ac.uk/

CMS runs a helpdesk for community-wide support, maintains a web presence, and is actively involved in developing and delivering training courses.

Interactions

Supporting state of the art numerical simulations is a multi-faceted activity which requires a great deal of cooperative effort between scientists, code developers, HPC service providers (and vendors), massive data-centres, funding centres, and more. CMS work closely with scientists (several of us are embedded in long-term science programmes), with colleagues at the Met Office, at HPC centres including ARCHER, Monsoon, and NEXCS, with the team at JASMIN, which combines massive data with massive data-processing, with NERC, and with European groups (DKRZ, DLR, BSC...) on a wide variety of tasks and projects (PRIMAVERA, CMIP6, UKESM...).

Travel, Conferences, and Training

CMS members are encouraged to attend meetings and conferences (both directly and indirectly relevant to their day-to-day work), as attendees and contributors to present material and represent CMS. We also encourage members to undertake training to maintain skill levels and keep current with new technologies and techniques.