

## Job Description

<b>Vacancy reference:</b>	SRF36640
<b>Post Title:</b>	Computational Scientist
<b>Grade:</b>	Grade 6
<b>School/Department:</b>	SMPCS
<b>Reports to:</b>	Rosalyn Hatcher
<b>Responsible for:</b>	None

### Purpose

The post holder will provide support to the High Resolution Climate Modelling (HRCM) group through running, maintaining, and troubleshooting state-of-the-art climate simulation workflows. In addition, ample opportunity will arise to further develop the associated computational infrastructure to maximize benefits of continual developments in the National HPC environment.

Working with the existing development team at the University of Reading, you will be exploiting modern software engineering tools and practices to develop software for the management and use of supercomputing simulations.

You will be running simulations on the UK's new HPC service ARCHER2, and JASMIN, which includes multi-petabyte object store and Elastic Tape systems.

The post will be managed from within the National Centre for Atmospheric Science's Computational Modelling Services (NCAS-CMS) group at the University of Reading. NCAS-CMS provides computational modelling services to the UK Climate and Weather research communities, develops software in-house and is responsible for installing and maintaining world-leading climate modelling systems on the UK's most powerful high-performance computers.

### Main duties and responsibilities

- Manage specific climate ensemble simulation experiments
- Maintain/troubleshoot the simulation-data transfer workflow between ARCHER2 and JASMIN
- Develop the ARCHER2-JASMIN workflow as agreed in response to advances in the computational environment
- Document numerical simulation progress and software contributions

### Supervision received

The post holder will receive supervision from Rosalyn Hatcher and advice from members of the HRCM team at Reading University.

### Supervision given

None

### Contact

The post will require regular communication with staff within NCAS, the Met Office, STFC (CEDA), and at national HPC and data facilities.

**Terms and conditions**

The post is full time for a fixed term of 1 year.

This document outlines the duties required for the time being of the post to indicate the level of responsibility. It is not a comprehensive or exhaustive list and the line manager may vary duties from time to time which do not change the general character of the job or the level of responsibility entailed.

**Date assessed: August 2021**

# PERSON SPECIFICATION

Job Title	School/Department
Computational Scientist	NCAS SMPCS

Criteria	Essential	Desirable
<b>Skills Required</b>	<ul style="list-style-type: none"> <li>• Python Programming</li> <li>• linux</li> </ul>	<ul style="list-style-type: none"> <li>• FORTRAN, C</li> <li>• Parallel computing, MPI, OpenMP</li> <li>• Subversion, Git</li> </ul>
<b>Attainment</b>	<ul style="list-style-type: none"> <li>• A university degree in a STEM subject (or equivalent)</li> </ul>	<ul style="list-style-type: none"> <li>• Further qualification in computational modelling</li> </ul>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>• Numerical simulation workflow</li> <li>• High-performance computing</li> </ul>	<ul style="list-style-type: none"> <li>• Climate modelling workflow technology (Rose/Cylc)</li> <li>• Scientific data formats and conventions (e.g. NetCDF, CF)</li> </ul>
<b>Relevant Experience</b>	<ul style="list-style-type: none"> <li>• Software development</li> <li>• Open source development environment</li> </ul>	<ul style="list-style-type: none"> <li>• Background in climate science or similar.</li> <li>• High-performance computing platforms</li> <li>• State of the art software engineering practices</li> <li>• Running complex software</li> </ul>
<b>Disposition</b>	<ul style="list-style-type: none"> <li>• An aptitude for working in interdisciplinary research teams</li> <li>• Excellent communication and interpersonal skills</li> </ul>	<ul style="list-style-type: none"> <li>• Desire to develop effective collaborations and share knowledge</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• Willingness to attend meetings and workshops as required.</li> </ul>	

Completed by: Grenville Lister	Date: 23 July 2021
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