



## JOB DESCRIPTION

<b>Job Title:</b>	Post-Doctoral Research Associate
<b>Department / Unit:</b>	Earth Sciences
<b>Job type</b>	Fixed-term (18 months)
<b>Grade:</b>	7
<b>Accountable to:</b>	Dr Paula Koelemeijer
<b>Accountable for:</b>	
<b>Purpose of the Post</b>	
<p>To conduct seismological research as part of the DEEPSCAPE research group, specifically:</p> <ul style="list-style-type: none"> <li>- Developing regional seismic tomography models of upwellings in the Earth's mantle.</li> <li>- Comparing these to predictions of global mantle circulation models.</li> <li>- Collaborating with other members of the NERC Large Grant MC2 project.</li> </ul>	
<b>Key Tasks</b>	
<p>Science:</p> <ul style="list-style-type: none"> <li>- To compile a data set of seismic observables and their uncertainties</li> <li>- To perform tomographic inversions using the SOLA method</li> <li>- To analyse the models and test the upper limits of resolution that can be achieved</li> <li>- To compare the results to global tomographic inversions and predictions from mantle circulation models by collaborators in the MC2 project</li> </ul>	
<p>Methodology:</p> <ul style="list-style-type: none"> <li>- To refine and optimise computational techniques with limited supervision from the PI</li> <li>- To set up and perform inversions in close collaboration and consultation with relevant academic / research colleagues</li> <li>- To take a leading role in overcoming methodological problems that arise during the project lifespan, and to keep the PI up-to-date with the project's progress</li> <li>- To formulate and test new hypotheses arising from the data and models, where relevant</li> </ul>	
<p>Communication and collaboration:</p> <ul style="list-style-type: none"> <li>- To pursue internationally excellent research individually and in collaboration with other members of the NERC-funded project</li> <li>- To compose research manuscripts for publication in peer-reviewed journals</li> <li>- To prepare and present research findings to colleagues and at scientific meetings</li> <li>- To contribute to and support outreach and impact-related activities</li> </ul>	

- To support the DEEPSCAPE group in other research activities such as seminars and project-related research
- To contribute, from time-to-time and as appropriate, to the overall activities of the Department.
- To undergo continued personal professional development.

#### **Other Duties**

The duties listed are not exhaustive and may be varied from time to time as dictated by the changing needs of the College. The post holder will be expected to undertake other duties as appropriate and as requested by his/her manager.

The post holder may be required to work at any of the locations at which the business of Royal Holloway is conducted.

#### **Internal and external relationships**

The following list is not exhaustive but the post holder will be required to liaise with:  
Dr Paula Koelemeijer (RHUL)  
Dr Christophe Zaroli (Strasbourg)  
Prof Huw Davies (Cardiff) and other members of the MC2 NERC project.