

## RSO PhD bursary call: Guidance for submission and assessment criteria

The Nuclear Waste Services Research Support Office (RSO) is requesting applications to the 2024 PhD bursary call. The scheme will provide funding to UK academic institutions for PhD projects. The aim of the NWS RSO PhD bursary call is to develop a portfolio of PhD projects focused on key NWS research priorities. This scheme will train the next generation of geological disposal scientists, engineers, social scientists and other researchers, and expand all aspects of the geological disposal academic research community throughout the UK.

The specific aims of the programme are to:

- Develop key skills required for NWS's research mission over the coming decades, and to help deliver the next generation of geological disposal scientists, engineers and social scientists
- Develop fundamental understanding of technologies and processes related to the geological disposal of radioactive waste, including the societal implications of hosting a GDF
- Encourage collaboration and communication between NWS and the academic community

The NWS RSO PhD studentship scheme will run annually with the expectation that several new projects will start each year. Students funded by NWS through the RSO have access to a growing geological disposal research community, training, and networking opportunities. Each project proposal should have a total cost to NWS of less than **£145,000**. Projects that can offer added value will be viewed favourably, for example by identifying co-funding from universities or third parties (either anticipated or confirmed) and/or in-kind contributions. Universities and research groups that have not previously received funding from NWS are particularly encouraged to apply.

### Call structure

Call opens:	05/10/2023
Clarifications period closes on:	19/10/2023
Call closes:	13/11/2022

The contractual arrangements for the PhD studentships will be administered by NWS. A copy of the NWS PhD contract can be [found here](#). All investigators/universities submitting a proposal must confirm that they will accept the NWS terms and conditions outlined in the contract if they are awarded funding. If you have any clarification questions (including commercial, technical, requests for flexibility in the deadline and regarding the contract) they should be sent before the **clarification period** is closed and addressed to the RSO via [rso-gdf@manchester.ac.uk](mailto:rso-gdf@manchester.ac.uk).

Any clarification questions or proposed changes to the scope of the project and/or grant agreement terms will be addressed by NWS and will only be considered during the Clarification period stated above and will not be accepted after proposal submission. All clarification questions must come through the RSO. Please do not approach the NWS lead directly. Questions and answers will be posted to the RSO website after the clarification period has closed so that all applicants have access to the same information.

Proposals will be accepted until 16:00 on 13/11/2023 as Word documents and supporting materials emailed to the RSO inbox: [rso-gdf@manchester.ac.uk](mailto:rso-gdf@manchester.ac.uk). Applications will be assessed by NWS.

### **NWS RSO PhD students**

Students will become part of the 2024 cohort of NWS RSO PhD students. They will have access to additional training and networking opportunities and be asked to present their research at the annual RSO conference. Proposals should factor in attendance at RSO events, and at bi-annual meetings with NWS and with other NWS-sponsored PhD students working in similar fields. These events will facilitate knowledge exchange between the PhD students and NWS and build up a long-term support network between the students.

### **PhD research projects**

Applications are welcome to any of the PhD research [projects listed here](#), including the open topic area (described below). This includes full briefs for the PhD research projects. The titles are;

- 1, Application of machine learning and neural network methods to rapid reactive transport modelling
- 2, Surrogate models for sensitivity analysis of computationally expensive multiphase flow models.
- 3, The impact of climate change on marine species and ecosystem function
- 4, Futures forecasting of resource use and human behavioural change in the context of the GDF programme
- 5, Development of a geochemical analytical toolkit for constraining regional groundwater hydrodynamics in deep saline coastal systems
- 6, Steel corrosion and gas generation in high salinity groundwaters
- 7, Development of methodologies to undertake spent fuel leaching in challenging groundwaters
- 8, Long lived radionuclide retention in the alteration products formed from HLW glass dissolution
- 9, Brines Behaving Badly? Constraining Radionuclide Behaviour in Analytically Challenging, Highly Saline Solutions
- 10, Conceptualising the Underground
- 11, Community Connectedness and Decision Making

### **Open topic**

In addition, the open topic category is available for research projects related to the geological disposal of radioactive waste that are not associated with any of the other topic areas and is a way of the academic community proposing PhD research ideas to NWS. This would include any research that supports the [NWS science and technology plan](#).

When developing a proposal please ensure you explain how the project aligns with the research outlined in the latest [NWS science and technology plan](#).

**The proposal will be assessed based on the answers to the following:**

#### **Mandatory criteria**

- 1) Confirm that the PhD project would start October 2023 and complete in 4 years**

Applicants are requested to confirm the project will be able to start by October 2024 and be completed within 4 years. If you are unable to recruit a student for October 2024 the funding may be carried over for 1 year, subject to agreement and any co-funding being maintained.

**2) Acceptance of the attached terms and conditions of the bursary is mandatory:**

- Contractual arrangements for the grant are between the host University and RWM Ltd trading as Nuclear Waste Services. Contractual documents therefore refer to RWM and not NWS.
- Acceptance of the linked RWM terms and conditions is mandatory. A completed grant agreement is not needed with the application but will be required if funding is awarded.
- If the grant agreement is not signed on award, then funding will not be issued.
- If after the grant award the grant agreement is not signed within 30 days, then NWS reserves the right to withdraw the award of the grant.

**3) Evaluation criteria:**

<b><i>Evaluation criteria</i></b>	<b><i>Weighting (out of 100%)</i></b>	<b><i>Description and guidance notes</i></b>
Confirm that the PhD project would start by October 2024 and complete in 4 years.	Pass or Fail	Exceptional circumstances will be reviewed on a case by case basis.
Acceptance of the attached terms and conditions.	Pass or Fail	A mandatory requirement
Supervisory Team	Pass or Fail	Please demonstrate that the supervisory team has the required expertise in the relevant areas.
Research Excellence	30%	<ul style="list-style-type: none"> <li>• The response will clearly define the scope and main deliverables from the project.</li> <li>• Describe how the work is novel and/or builds upon previous work or experience of the supervisory team and why this research in this proposal is the best method..</li> <li>• Describe how your proposal will make things better and advance knowledge; either by mitigating risk or finding a new or different way of doing things.</li> <li>• A demonstrable understanding of the technical and research background of the challenge area</li> <li>• The suitability of the methodology to achieve the project's aims</li> <li>• The ambition, novel approaches and transformative aspects or potential outcomes that the proposed research might achieve</li> </ul>

Fit to Scheme	25%	<ul style="list-style-type: none"> <li>• Refer to specific NWS challenges that exist now or are likely to become issues in the future. Except in the case of the ‘open’ theme, it is expected that this will be explicitly linked to a statement in the call for proposals.</li> <li>• Alignment to the brief or justification as to how the proposal meets NWS challenges</li> <li>• Describe how the proposed research relates to those problems and will tackle them/increase understanding of them/contribute to or produce an alternative tool or technique for dealing with them.</li> </ul>
Project management Please define the necessary timescales, including a project work plan and/or Gantt chart. If experimental work will be undertaken, a clear strategy for delivering, analysing and synthesising appropriate data should be detailed combine with costing	10%	<ul style="list-style-type: none"> <li>• Include an approximate breakdown of costs to the nearest £1k showing how the funding will be split between labour, equipment, and consumables etc. <ul style="list-style-type: none"> <li>- Stipend (student support). Mandatory information: NWS recognises that cost of living increases have impacted postgraduate researchers. In line with the recent UKRI announcement, we expect students funded through the RSO PhD Bursary call to receive a stipend that is at least equivalent to those paid by UKRI, i.e. £18,622 FTE.</li> <li>- Fees (including overheads, permanent staff costs, estate costs)</li> <li>- Research training support (e.g. travel and subsistence, conference registration fees, training courses)</li> <li>- Equipment and consumables (equipment &gt;£1K should be itemised)</li> </ul> </li> <li>• Incorporate a project plan/Gantt chart showing the durations of the key phases of the work and identifying key milestones and deliverables.</li> <li>• Identify any major risks to the research and associated mitigation that can be considered against these risks.</li> <li>• Demonstrate value for money for any equipment (costing more than &gt;£1K) required to deliver the research, including in-kind access to equipment where appropriate.</li> <li>• Itemise any leverage associated with the research. This can include use of existing facilities, in-kind support from other areas/projects, use of NNUF or other national infrastructure.</li> <li>• Demonstrate that any proposed active work has been discussed in advance with the relevant facility owners/operators and is feasible within the bounds of the proposal. <ul style="list-style-type: none"> <li>- Any details on active work will be described in an optional 250-word field on the form.</li> <li>- This should include an estimate of any additional costs that would be incurred if this additional scope were to proceed. These costs are not included within the £145K limit for the project.</li> </ul> </li> </ul>

Skills and capability generation	20%	<ul style="list-style-type: none"> <li>• Identify the specific skill set that will be developed by the proposed work and demonstrate how &amp; where that fits into the long-term NWS mission.</li> <li>• Identify “peripheral” skills/knowledge e.g. communication skills, networking, exposure to the nuclear sector that will be developed during the PhD research project and explain why these are now/will in the future be relevant to NWS mission.</li> <li>• Show how skills will be developed/retained within the wider supervisory team, e.g. networking, exposure to the nuclear sector. This will include the student, the Principal Investigator (PI), industrial supervisor and any other industry experts who will be engaged throughout the project.</li> </ul>
Knowledge Exchange and Impact	15%	<ul style="list-style-type: none"> <li>• Describe what will be done by the researcher and academic PI to ensure that the learning from the project is incorporated into the overall body of knowledge.</li> <li>• Is visible to, and accessible by, interested parties within NWS, for example, are unlikely to have access to academic journals.</li> <li>• Is visible to, and accessible by, the wider community (e.g. other academics, industry supply chain).</li> <li>• Describe how the work will be made accessible to and/or could be applied by those working within the NWS or the supply chain.</li> <li>• Identify other industries who might benefit from this knowledge</li> </ul>

### Scoring Criteria

Assessment	Score	Interpretation
<b>Excellent</b>	5	Excellent demonstration by the University of the relevant ability, understanding, expertise, skills and resource required to provide the services, with evidence to support the response. Such a response is very clear and comprehensive and includes proposals that will offer added value, with supporting evidence provided to underpin these proposals. In general, the response would be described as excellent or superior.
<b>Good</b>	4	Good demonstration by the University of the relevant ability, understanding, expertise, skills and resources required to provide the services, with evidence to support the response. Such a response is clear and comprehensive and identifies factors that may offer added value, with some supporting evidence provided to underpin these proposals. In general, the response would be described as good or conscientious.

<b>Acceptable</b>	3	Acceptable demonstration by the University of the relevant ability, understanding, expertise, skills and resources required to provide the services, with evidence to support the response. Such a response is reasonably clear and comprehensive and identifies factors that may offer some limited added value, with some supporting evidence provided to underpin these proposals. In general, the response would be described as acceptable, adequate or sufficient.
<b>Minor Reservations</b>	2	Minor reservations regarding the demonstration by the University of the relevant ability, understanding, expertise, skills and resources required to provide the services, with some evidence to support the response. Such a response is only partially clear, does not identify factors that may offer added value and/or does not provide supporting evidence to underpin these proposals. In general, the response would be described as less than adequate or containing weaknesses.
<b>Major Reservations</b>	1	Major reservations regarding the demonstration by the University of the relevant ability, understanding, expertise, skills and resources required to provide the services, with little evidence to support the response. Such a response is largely unclear, does not identify factors that may offer added value and/or does not provide supporting evidence to underpin these proposals. In general, the response would be described as lacking merit or containing major weaknesses.
<b>Unacceptable</b>	0	No demonstration by the University of the relevant ability, understanding, expertise, skills and resources required to provide the services, with no supporting evidence to support the response. Such a response is unclear, does not identify factors that may offer added value and/or does not provide supporting evidence to underpin these proposals. In general, the response would be described as unacceptable or unsatisfactory.