Research Fellow (Marine Simulator and Modelling Specialist)
National Decommissioning Centre

**Closing date:** 19 March 2020
**Interview date:** TBC
**Reference number:** ENG149R
Introduction

The National Decommissioning Centre (NDC) is a multi-million pound research and development facility for decommissioning and late-life asset management.

The National Decommissioning Centre (NDC) was established in 2018 through a partnership between the University of Aberdeen and the Oil & Gas Technology Centre (OGTC), and with funding from the UK and Scottish Governments. The Centre builds on the original proposal within the Aberdeen City Region Deal to leverage the combined capabilities of academia, industry and other organisations to help create competitive advantage in decommissioning within the global energy sector. The objectives of the NDC are:

- To be a global leader in research and development that transforms oil and gas decommissioning and mature field management
- To be a focal point for all R&D activity in relation to late-life and decommissioning – developing a platform to store and disseminate information on R&D activity through collaboration
- To create a Hub and spoke model across the UK with other researcher partners
- To ensure effective and efficient collaboration with industry and other stakeholders
- To help create R&D capacity and capability across the hub and spokes

The NDC, based in Newburgh, Aberdeenshire, includes a high-tech digital visualisation suite designed to enable collaboration, state-of-the-art engineering laboratories and a hangar space for the design and development of decommissioning technology, as well as a suite of environmental commercial testing facilities. The most recent investment has been in a state-of-the-art, real-time, real-physics marine simulator with a 300-degree immersive environment and 4 control stations. The simulator is funded partly by the Scottish Government’s Decommissioning Challenge Fund and partly by the Centre itself and is being supplied by the Offshore Simulation Centre (OSC) AS in Aalesund, Norway (https://osc.no/) who will provide ongoing support and collaboration. The system is capable of simulating and displaying in real-time the interaction between vessels, cranes, remote operated vehicles, structures and the seabed with realistic environmental conditions for wind, wave current etc.

Job description

Main purpose of the role:

The investment in the simulator generates the requirement for an exciting new post within the NDC. The Marine Simulator and Modelling Specialist position will be responsible for supervising the use of the Centre's new marine simulator, assisting staff, students and external users in developing new and innovative models and running simulations of decommissioning and other scenarios. The system is unique within the UK and you will have the opportunity to understand its capabilities and get involved in projects which will require further development of the system.
The role will see you being responsible for understanding industry challenges, developing scenarios, running simulations and developing models of new infrastructure and incorporating these into the simulator with support from OSC. Other opportunities will include working with staff and students at the NDC and the Oil and Gas Authority (OGA) to develop a “Smart Basin” concept using the simulator to visualise data across the entire UK continental shelf (UKCS) to assist in decision making.

You will work closely with Prof Richard Neilson, the Centre Director and Dr Russell Stevenson, the OGTC’s industrial director, to champion the use and development of the simulator. You will interact extensively with industry and must have good interpersonal and communication skills as well as a high level of technical ability in modelling/simulation. Ideally you will have a PhD in physics, engineering, naval architecture or a similar subject with experience of dynamic modelling. You should also be able to evidence working effectively in a multi-disciplinary team.

**Key responsibilities:**

1. Virtual prototyping
   - Key individual behind developing models and scenarios for the simulator, to support anchor/project partners (i.e companies), research collaborators (i.e. research institutions and universities), NDC staff and students.
   - Meet with potential NDC anchor/project partners and research collaborators to demonstrate and provide an overview of the capabilities of the simulator and discuss potential scenarios.
   - Develop new models for implementation into the simulator library.
   - Support other ongoing NDC projects which will use the simulator.
   - Deliver training as and when required to NDC staff and students, anchor/project partners and research collaborators, providing briefing notes for the courses delivered.

2. Infrastructure and Services
   - Provide the primary interface with OSC and the NDC on projects, modelling issues and support.
   - Assist in supporting and deploying new and novel services including working with other potential software suppliers to interface with the simulator.
   - Coordination between OSC and IT services to ensure the maintenance of the simulator.

3. General
   - Undertake regular update training at OSC to ensure up-to-date knowledge of the simulator software and hardware
   - Support user forums, open days, training events and related meetings relevant to the research community.
   - Pro-actively develop links with those in similar roles within the University of Aberdeen and at other universities and research institutions.
   - Support of services outside “normal office hours” (including weekends) may be required at times due to the high importance of this infrastructure to the NDC.
   - Participate in a regular Staff Development Review.
Candidate background

We are looking for a candidate with extensive experience of modelling marine and dynamic systems and managing systems in a support role. The role requires someone who is good at problem solving, with excellent customer facing abilities. Programming and software development skills will also be useful in this role.

Terms of appointment

Salary will be at the appropriate point on the Grade 7 salary scale (£41,526 - £49,552 per annum) and negotiable with placement according to qualifications and experience.

These activities are funded by the Oil & Gas Technology Centre and the UK and Scottish Governments which has been agreed until 31 August 2026.

Any appointment will be made subject to satisfactory references and a 12 month probation period.

For further information on various staff benefits and policies please visit www.abdn.ac.uk/staffnet/working-here

Should you require a visa to undertake paid employment in the UK you will be required to fulfil the minimum points criteria to be granted a Certificate of Sponsorship and Tier 2 visa. As appropriate, at the time an offer of appointment is made you will be asked to demonstrate that you fulfil the criteria in respect of financial maintenance and competency in English. Please do not hesitate to contact Heather Clark, HR Adviser on +44 (0)1224 273244 or email h.m.clark@abdn.ac.uk for further information.
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<td><strong>Education/Qualifications</strong>&lt;br&gt;Academic, technical and professional education and training</td>
<td>• PhD in relevant subject e.g. physics, engineering&lt;br&gt;• Honours degree in a relevant subject e.g. physics, engineering, naval architecture etc&lt;br&gt;• Postgraduate qualification</td>
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<td><strong>Work and Other relevant experience (including training)</strong>&lt;br&gt;e.g. Specialist knowledge, levels of experience, supervisory experience, research</td>
<td>• Evidence of development of dynamic/marine model for simulation&lt;br&gt;• Experience with simulation as a tool for operational prototyping and validation&lt;br&gt;• Experience with project management and customer relations.</td>
<td>• Experience with CAD and 3d-modelling.&lt;br&gt;• Experience with multi-body physics simulation&lt;br&gt;• Experience of use of High Power Computing cluster&lt;br&gt;• Experience with IT infrastructure including networking, servers and workstations.&lt;br&gt;• Previous experience of working in a research environment in higher education&lt;br&gt;• Experience of server technologies including Windows and Linux.&lt;br&gt;• Understanding of issues of system security, reliability, and availability.</td>
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### Personal qualities and abilities

**e.g. initiative, leadership, ability to work on own or with others, communication skills**

- Customer driven service-oriented outlook and approach.
- Evidence of providing customer support.
- Excellent interpersonal skills.
- Excellent written & verbal communication skills.
- Ability to work under own initiative, individually or as part of a multi-disciplinary team.
- Ability to work effectively in a busy environment.

### Other

**e.g. special circumstances (if any) appropriate to the role such as unsocial hours, travelling, Gaelic language requirements etc.**

- The post holder may be required at times to work in machine rooms and perform physical tasks. The overall environment in the machine room is classified as hazardous and difficult due to the nature of the equipment housed within it, i.e. high power equipment. Appropriate Personal Protective Equipment if needed and training will be provided.
- History of working in teams and alone to resolve issues and deliver projects and work packages.
The University

Founded in 1495, Aberdeen is Scotland’s third oldest University and the fifth oldest in the UK. Ranked within the world top 140 in the recent QS global league table, Aberdeen is the ‘global University of the north’.

Aberdeen is a broad based, research intensive University, which puts students at the head of everything it does. It has significant academic strengths and potential across a wide variety of disciplines. Outstanding in a wide range of discipline areas across the entire research spectrum, Aberdeen has also been credited for its international reach and its commercialisation of research ideas into spin out companies.

The University has over 14,000 matriculated students and 3,600 staff representing 120 nationalities. We encourage bold thinking, creativity and innovation and we nurture ambition with many opportunities for professional and personal development in an inclusive learning environment which challenges, inspires and helps every individual to reach their full potential.

The University combines a distinguished heritage with a forward looking attitude. In the past few years, the University has encouraged creativity in its academic staff, broken new ground with an innovative curriculum, and developed state-of-the-art facilities including the new Sir Duncan Rice Library and the Aberdeen Sports Village and Aquatics Centre. In looking to the future, the University seeks to enhance its reputation as one of the world’s leading Universities by moving forward with ever more ground breaking research; ensuring students have an intellectual and social experience second to none; and capitalising upon the dual role as one of the major institutions of the north and as a cornerstone of regional economic and cultural life.

The Oil and Gas Technology Centre

Launched in February 2017, the Oil & Gas Technology Centre is a not-for-profit, research and knowledge company, which aims to become the go-to technology centre for the oil and gas industry in the UK and globally.
With £180 million funding from the UK and Scottish Governments, through the Aberdeen City Region Deal, the Centre inspires and accelerates innovation, co-investing in industry-led projects to take new technologies from concept through to deployment in the oil field.

Its goals are to unlock the full potential of the UK North Sea, anchor the supply chain in North-East Scotland, and create a culture of innovation that attracts industry and academia to the region.
The city and the region

Aberdeen and Aberdeenshire

Aberdeen is world renowned as the oil capital of Europe and the region is both the agricultural heartland of Scotland and a hub of the food and drink industry.

With the population approaching 230,000, Aberdeen is big enough to provide all the advantages of city life, yet compact enough to enjoy the more intimate atmosphere usually associated with small towns.

Aberdeenshire is one of Scotland’s most appealing regions. Royal Deeside and the Cairngorms National Park are within easy access of the city, and there are a variety of towns and villages scattered along the coastline.

Aberdeen and Aberdeenshire cater for a wide range of tastes in sporting and cultural activities.

To find out more about Aberdeen and Aberdeenshire go to www.VisitScotland.com

How to apply

Online application forms are available at www.abdn.ac.uk/jobs

The closing date for receipt of applications is **19 March 2020**

Should you wish to make an informal enquiry please contact
Professor Richard Neilson, Director National Decommissioning Centre
01224 274407
r.d.neilson@abdn.ac.uk

Please do not send application forms or CVs

Please quote reference number ENG149R on all correspondence
The University pursues a policy of equal opportunities in the appointment and promotion of staff.