UNIVERSITY OF ABERDEEN

Marine Simulation and Modelling Research Post

National Decommissioning Centre

Closing date: 11 May 2021

Interview date: TBC

Reference number: ENG170R

Introduction

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

The National Decommissioning Centre (NDC) was established in 2018 and launched in Jan 2019 through a partnership between the University of Aberdeen and OGTC (formerly the Oil & Gas Technology Centre). It is co-funded by the two organisations drawing on funding from the UK and Scottish Governments. The Centre builds on the 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 – this includes re-purposing and energy integration as part of the transition to net-zero
- 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 to 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, has invested heavily in enabling technologies to support its work. 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 co-funded by the Scottish Government's Decommissioning Challenge Fund and the Centre. It is supplied by the Offshore Simulation Centre AS in Ålesund, Norway (https://osc.no/), who are providing ongoing technical support and project collaboration. The system is capable of simulating and displaying in real-time the interaction between vessels, cranes, remote operated vehicles, surface and subsea structures and the seabed with realistic environmental conditions for wind, wave current etc...

Other facilities include 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.

Job description

Main purpose of the role:

The high level of interest in running projects in the simulator has generated the requirement for a challenging new role within the NDC. The Marine Simulation and Modelling Research position will be responsible for helping develop the capability of the NDC's marine simulator, assisting staff, students and external users in developing new and innovative models and running simulations of decommissioning and other scenarios, particularly those related to the energy transition. 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 system development.

In this role you will be responsible for understanding industry challenges, working with our Simulator Technical Manager to develop scenarios, run simulations and develop models of new infrastructure and incorporate these into the simulator with support from OSC. Other opportunities will include working with staff and students at the NDC, regulators and companies to develop a "Smart Basin" concept using the simulator to visualise data across the entire UK continental shelf to assist in decision making.

You will work report to Dr Marcin Kapitaniak, our Simulator Technical Manager and will work closely with Prof Richard Neilson, the Centre Director, the NDC's Business Development analyst and Project Delivery Manager, to assist in the development of the simulator and the scoping and effective of delivery of projects. 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.

At a glance

Salary:

Grade 6 £33,797 - £34,803 per annum

Hours of work:

Full time

Contract type:

Available for three years

LOCATION:

Aberdeen

Key responsibilities:

The key responsibilities of the role will be:

- Delivery and direct input to NDC projects (e.g. project and academic partner projects)
- Working with the NDC Simulator Technical Manager and Project Delivery Manager in the technical aspects of project specification, planning and delivery
- Interfacing, where necessary, with industry and relevant academics and research partners to facilitate project activity, progress and resourcing
- Participate in wider NDC activities such as STEM and public outreach events.

Candidate background

We are looking for a candidate with a background in engineering, physics, naval architecture, or computing science or a similar subject with experience of modelling marine and dynamical systems or data visualisation and modelling. 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 6 salary scale (£33,797 – 34,803 per annum) and negotiable with placement according to qualifications and experience.

As this post is funded by OGTC it is available for 3 years.

This role is based in the UK and as such the successful candidate will be required to live and work in the UK.

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 employment in the UK you will be required to fulfil the minimum points criteria to be granted a Certificate of Sponsorship under the requirements of the Skilled Worker visa. At the time an offer of appointment is made, you will be asked to demonstrate that you fulfil the criteria in respect of qualification and competency in English. For research and academic posts, we will consider eligibility under the Global Talent visa. Please do not hesitate to contact Heather Clark, HR Adviser (e-mail: h.m.clark@abdn.ac.uk) for further information.

Person specification

	Essential	*Desirable*
Education/Qualifications Academic, technical and professional education and training	• PhD [or close to completion] in a suitable subject e.g. engineering, physics, naval architecture, or computing science	
Work and Other relevant experience (including training) e.g. Specialist knowledge, levels of experience, supervisory experience, research	• Evidence of experience with multi-body physics simulation or data visualisation and modelling • Evidence of recent research experience (publications, conference participation) • Evidence of successful delivery of technical projects • Evidence of effective interaction with industry • Evidence of ability to contribute to the formation of projects and the writing of proposals	• Knowledge of the oil and gas and/or wider energy sectors • Experience in numerical modelling/experimental studies (fluid-structure interactions, fluid dynamics) • Experience in design (CAD) • Evidence of successful project management • Evidence of budget control • Understanding of decommissioning • Experience with multi-body physics simulation • Current driving license

Personal qualities and abilities *e.g. initiative, leadership, ability to work on own or with others, communication skills*	• Excellent interpersonal skills. • Excellent written & verbal communication skills. • Evidence of strong team working • Ability to work under own initiative, individually or as part of a multi-disciplinary team. • Ability to work effectively in a busy environment.	• History of working in teams and alone to resolve issues and deliver projects and work packages
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, e.g. high-power equipment. Appropriate Personal Protective Equipment is available if needed and training will be provided.	

The University

Founded in 1495, Aberdeen is Scotland's third oldest University and the fifth oldest in the UK. Ranked in the top 180 universities in the world (Times Higher Education World University Rankings 2021), 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.

OGTC (formerly The Oil and Gas Technology) Centre

Technology Driving Transition OGTC

OGTC (previously the Oil & Gas Technology Centre) was established in October 2016 with £180 million funding as part of the Aberdeen City Region Deal.

Its goal is to support the oil and gas industry to develop and deploy technology to accelerate the transition to an affordable net zero North Sea. It co-invests with industry to diversify the supply chain and create a technology led, globally competitive supply chain for our future net zero

energy system. It is committed to a culture of innovation and helping to attract the next generation of engineers and scientists to our industry.

OGTC invests in partnership with industry, local and national government, and academia to address major energy challenges, working across a range of sectors from renewables to manufacturing. People and technical innovation are at the heart of what we do.

OGTC was created as part of the Aberdeen City Region Deal, a long-term improvement programme to enhance growth, competitiveness, connectivity, infrastructure, housing, and employment into an already successful regional economy. It has a strong track record of delivery and to date has evaluated more than 1,000 technologies, invested in more than 250 projects, delivered more than 50 field trials, grown more than 25 new companies, and delivered more than 20 commercialised technologies.

The Deal is supported by the Scottish Government, UK Government, Aberdeen City Council, Aberdeenshire Council and Opportunity North East. You can find out more about the Aberdeen City Region Deal on the Delivering for Scotland website."

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

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The closing date for receipt of applications is **11 May 2021**

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 ENG170R on all correspondence

The University pursues a policy of equal opportunities in the appointment and promotion of staff.