Research Fellow

SCHOOL OF GEOSCIENCES

Closing date: 07 December 2021
TBC
TBC
Reference number: GEO412R
INTRODUCTION

Triassic fluvial successions form important primary and secondary reservoirs in the Central North Sea (CNS) and contain significant future exploration potential. Extraction of hydrocarbons from these deposits is hampered by a lack of knowledge regarding reservoir architecture, geometry, connectivity and internal heterogeneity. Recent work suggests that Triassic fluvial reservoirs in the CNS comprise a series of overlapping point-sourced distributive fluvial systems (DFS) that interact with an axial system. DFS and axial systems show predictable downstream changes in channel size and depth that are reflected in sandstone body size, architecture, geometry and connectivity. Using relationships established from present day and outcrop examples and calibrated against core and wireline log data, we aim to construct a suite of reservoir models using a range of different geometries that characterise the behaviour of the Triassic reservoir units.

The aim of this project is to quantify the role of stratigraphic complexity on reservoir production. To characterise the different Triassic reservoir intervals the PDRA will build a series of synthetic models that represent the stratigraphy for the different parts of the DFS and axial systems present within the reservoir intervals of Quads 22, 29 and 30. The project will utilise in house outcrop datasets to establish likely sediment body geometries, grain size and heterogeneity distribution within appropriate proximal, medial and distal sections of DFS deposits and axial fluvial systems. Particular attention will be focussed on establishing appropriate analogues. Comparison of reservoir model builds with production data from Triassic fields will be used to calibrate and test the reservoir models. Models will be dynamically tested using a range of typical fluid and PVT properties from the area. The models will be focused on stratigraphic architecture but will also provide information on the role of the stratigraphic heterogeneity in controlling production.

This PDRA position will be based in the Department of Geology and Geophysics within the School of Geosciences. It will provide an excellent opportunity to gain expertise in a wide range of different techniques and transferrable skill sets that can be utilised in a future geoscience-based career.

Publication of findings (with agreement/involvement of industry partners) will be strongly encouraged.

The PDRA will join a vibrant subsurface research community at the University of Aberdeen, which includes over 40 PhD students and 6 Post-Doctoral researchers.

MAIN PURPOSE OF THE ROLE:

To build a series of synthetic models that represent the stratigraphy for the different parts of the DFS and axial systems present within the reservoir intervals of Quads 22, 29 and 30.

To compare reservoir model builds with production data from Triassic fields and followed by dynamic testing using a range of typical fluid and PVT properties for the study area.

KEY RESPONSIBILITIES:

Below shows some of the key expectations for the project

- Experience with Petrel (or equivalent software)
- Experience of static and dynamic reservoir modelling
- Integration of subsurface data sets for characterisation of reservoir properties
- Integrate with and help manage associated PhD projects
CANDIDATE BACKGROUND

The candidate should possess a PhD in Earth Sciences/relevant subject, and should be experienced in petroleum geology/basin analysis/structural geology/sedimentology from basin to prospect scale.

Previous industry experience, although not essential, will be looked on favourably in the applications.

The candidate should have some experience of reservoir modelling but knowledge of all aspects is not essential.

Demonstrated ability to draft high quality figures (using Corel, Illustrator, Inkscape, or equivalent), plus experience in ArcGIS will be advantageous.
TERMS OF APPOINTMENT

Salary will be paid at the rate of £34,304 per annum on Grade 6 of the University Salary Scales.

As this post is funded by a consortium of companies it is available until December 2023.

Any appointment will be made subject to satisfactory references and probation period

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

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

The candidate appointed to this post may be eligible for homeworking on an occasional or regular basis. For more information please refer to our Homeworking Policy.

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.

AT A GLANCE

SALARY:
Grade 6
£34,304 per annum

HOURS OF WORK:
Full Time

CONTRACT TYPE:
Available until December 2023

LOCATION:
Aberdeen
**PERSON SPECIFICATION**

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<th><strong>Education/Qualifications</strong></th>
<th><strong>ESSENTIAL</strong></th>
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<td>Academic, technical and professional education and training</td>
<td>PhD in Earth Sciences or relevant subject</td>
<td>Experience of working with or in industry</td>
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<td>Good drafting skills using e.g. (illustrator, Corel, or other drafting software)</td>
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<td>ArcGIS experience</td>
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<th><strong>Work and Other relevant experience (including training)</strong></th>
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<td>e.g. Specialist knowledge, levels of experience, supervisory experience, research</td>
<td>Experience in reservoir modelling</td>
<td>Experience of working with or in industry</td>
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<td>Experience of integrating a range of different subsurface datasets</td>
<td>Good drafting skills using e.g. (illustrator, Corel, or other drafting software)</td>
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<td>Experience with Petrel and other relevant industry software.</td>
<td>ArcGIS experience</td>
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<th><strong>Personal qualities and abilities</strong></th>
<th><strong>ESSENTIAL</strong></th>
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<td>e.g. initiative, leadership, ability to work on own or with others, communication skills</td>
<td>Good communication skills.</td>
<td>Experience of working with or in industry</td>
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<td>Ability to work independently and as part of a research team</td>
<td>Good drafting skills using e.g. (illustrator, Corel, or other drafting software)</td>
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<td>Ability to contribute professionally to the academic life of the School and the University.</td>
<td>ArcGIS experience</td>
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<td>Good organisational skills.</td>
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<td>Ability and willingness to work in a multidisciplinary environment.</td>
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open to all and dedicated to the pursuit of truth in the service of others

The University of Aberdeen is a broad based, research intensive University, and we put students at the centre of everything we do. Outstanding in a wide range of discipline areas, Aberdeen is credited for its international reach and commercialisation of research ideas into spin out companies. The University has over 16,000 matriculated students and 3,600 staff representing 130 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 and inspires.

CURRENT CONTEXT

The University continues to build on its achievements. Underpinning our high performance and significant growth is a £100m investment in Aberdeen’s estate which will include the completion of a new Science Teaching Hub, the regeneration of the historic King’s Quarter and a new Business School building. The University has also invested in 50 new academic posts and in 2020 launched five interdisciplinary, cross-institution Research Centres that will catalyse world-leading research in our areas of strength. Our five Interdisciplinary Challenges are: Energy Transition; Social Inclusion and Cultural Diversity; Environment and Biodiversity; Data and Artificial Intelligence; and Health, Nutrition and Wellbeing.

ABERDEEN 2040

On our 525th anniversary as a University we launched Aberdeen 2040, our strategic vision for the next 20 years. Four strategic themes will shape our learning and discovery, underlined by 20 commitments we have made against each theme:

- Inclusive
  We welcome students, staff and partners from all backgrounds, organisations and communities. We value diversity.

- Interdisciplinary
  We innovate in education and research by generating, sharing and applying new kinds of knowledge. We learn together.

- International
  We connect with others and extend our networks and partnerships around the world. We think across borders.

- Sustainable
  We understand and nurture our environment, and take care of our resources, including our people and finances. We work responsibly.
OUR EDUCATION
Recognised as the Scottish University of the Year in the Times and Sunday Times Good University Guide 2019, we remain true to our roots as an ancient Scottish university, combining breadth and depth in our degree programmes and drawing strength from the quality of our research. Our flexible curriculum encourages students to grow as independent learners and therefore to thrive as graduates in the diverse workplaces of the future. Our education is open to all and we are setting ambitious targets to further widen access.

OUR RESEARCH
Researchers at the University of Aberdeen have been at the forefront of innovation and excellence throughout the centuries, generating insights in medicine, science, engineering, law, social sciences, arts and humanities. This research has contributed to five Nobel prizes as well as other awards such as the Queen’s Anniversary prize. Our research is intellectually rigorous working within our established areas of excellence as well as new methods of enquiry. We will continue to generate new knowledge addressing economic and societal issues with ambition and imagination, ensuring that it is globally excellent and locally relevant.

INTERNATIONAL
Aberdeen is increasing its international presence, positioning the University as a global organisation and building on established global partnerships in e.g. Qatar, China, North America, Europe. We feature in the top 50 institutions worldwide for international students¹ and have been named 32nd in the world for International Outlook². The University of Aberdeen is proud to be the first UK University to operate on a dedicated campus in Qatar. Phase 1 of this partnership with AFG College has successfully recruited over 600 students. Phase 2 will see the creation of a substantially larger campus, with capacity for at least 5,000 students and research activity. For further information on our Qatar campus visit www.abdn.ac.uk/qatar.

IMPACT
Our dedication to building a sustainable future is reflected in the Times Higher Education Impact Rankings 2021 where we were ranked in the top 60 Universities worldwide for positive impact on society.
In 2020 the University signed the United Nations Sustainable Development Goals accord, solidifying our commitment to developing the world in a sustainable way. In 2021 we were listed in the global Top 50 for 6 of these goals and in the UK Top 20 for all 17³.

¹ Times Higher Education World University Rankings 2021
² QS World University Rankings 2021
³ Times Higher Education Impact Rankings 2021
ABERDEEN AND ABERDEENSHIRE

Scotland’s third largest city, Aberdeen sits on the coast between the mountains of Aberdeenshire and the stunning North Sea coastline. The Aberdeen City region is a can-do place that is actively investing, at scale, in its future.

Renowned as a Global Energy Hub, Aberdeen is a vibrant, entrepreneurial region, home to a unique mix of business opportunities and specialist skills across various sectors including energy, technology, life sciences and food & drink. More than 20% of Scotland’s top businesses are located in this region which is taking great strides to ensure that it continues to compete on a world stage. Investments of more than £10 billion of public and private infrastructure is due to be delivered before 2030, marking an exciting time to be part of a genuine world-class location.

Built from sparkling local granite Aberdeen has earned the name of the Silver City. As the energy capital of Europe, Aberdeen nevertheless retains its old-fashioned charm and character making it an attractive place in which to live, work and study. Due to its global business and international energy industry credentials, Aberdeen is well served by local and national transport infrastructure with excellent rail networks that run both North and South of Scotland and the rest of the UK. It also acts as an international travel hub. Flying time to London is just over one hour with regular daily flights and serves international travel to European centres such as Amsterdam (Schiphol) and Paris (Charles de-Gaulle) as well as flights to other European destinations.

The City and the surrounding countryside provide a variety of urban, seaside and country attractions. Aberdeen has first class amenities including His Majesty’s Theatre, Music Hall, Art Gallery, the P&J Arena, Museums, and Beach Leisure Centre. The City is framed by its accessible beach front which is within a short walk of the city centre and there are an array of activities available across the region such as hill walking; mountaineering; sailing; surfing; salmon, trout and sea fishing; golf; sailing; surfing and windsurfing. The surrounding countryside, known as Aberdeenshire, is also 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.

The city and the surrounding area have ranked consistently highly in nationally recognised quality of life surveys, coming out top 10 as one of the best places to live in Scotland in 2020 in the annual Bank of Scotland survey.

To find our more visit www.visitabdn.com
Equality and Diversity

The University values a diverse working environment and recognises the benefits this can bring. The University is keen to receive applications from individuals from across all of the equality protected characteristics (age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation).

The University supports opportunities for flexible working for a range of reasons and has policies in place to facilitate this. The policies can be found at https://www.abdn.ac.uk/staffnet/working-here/flexible-working--5607.php.

The University’s commitment to gender equality has been recognised through the achievement of an Athena SWAN Bronze award at an institutional level and across all its subject areas. The University is also a Stonewall Diversity Champion to further LGBT+ equality.

The University is signed up to Advance HE’s Race Equality Charter, affirming the University’s commitment to the charter’s aim of improving the representation, progression and success of minority ethnic staff and students within higher education.

Candidates who are British Sign Language (BSL) users can contact us directly by using contact SCOTLAND-BSL.

The University is delighted to be accredited as a Disability Confident employer and strives to ensure that disabled staff and students have the opportunity to work and study in an inclusive, accessible and supportive environment.

www.abdn.ac.uk/staffnet/governance/equality-and-diversity-277

How to Apply

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

The closing date for receipt of applications is 07 December 2021

Should you wish to make an informal enquiry please contact:

Professor Adrian Hartley (a.hartley@abdn.ac.uk) or Professor John Howell (john.howell@abdn.ac.uk)
01224 273712

Please do not send application forms or CVs to Professor Hartley or Professor Howell.

Please quote reference number GEO412R on all correspondence