AR-1020
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Professor (with special responsibilities) in Offshore Produced Water Management Research

Do you have solid experience with research & development in relation to oil and gas production and a strong track record within management of multidisciplinary R&D programmes? Then you might be the new professor that we are looking for at the Danish Hydrocarbon Research and Technology Centre (DHRTC).

DHRTC (Danish Hydrocarbon Research and Technology Centre) was established in 2014 by DTU and the Danish Underground Consortium (DUC), a joint venture between Total E&P, Noreco and Nordsøfonden. DHRTC is an active partnership of five universities and research institutions: DTU, Aalborg University (AAU), Aarhus University (AU), University of Copenhagen (KU), and the Geological Survey of Denmark and Greenland (GEUS).
The Centre has received a starting grant of DKK 1 billion for a 10-year period. As part of the National Strategy on Oil and Gas, the Centre makes an ambitious and targeted effort to improve oil and gas recovery while also working to reduce environmental footprints in the Danish North Sea.

The Centre's objectives are to progress knowledge and solutions with application potential, and to contribute to research-based teaching programmes. The Centre operates in close collaboration with the industry and other research institutions in Denmark and abroad. The Centre aims at stimulating cross-disciplinary collaboration and dialogue where insight in existing fields and technologies meet knowledge of new technologies.

The project portfolio currently counts six research programmes with nearly 200 ongoing projects and an annual budget of some DKK 100 million. Further, two programmes addressing environmentally sustainable oil and gas recovery will be framed this year for 2020 start.

To reduce environmental impact and meet increasingly stringent regulations for the discharge of water produced from the North Sea oil and gas fields, DHRTC is initiating a new research programme to develop technologies to improve handling and treatment of produced water. The programme is cross-disciplinary in nature as it draws on disciplines from petroleum engineering, production and petroleum chemistry, chemicals engineering to sensor development, analytical chemistry, and petroleum geochemistry. Complex interfacial chemistry and thermodynamics will be a key scientific discipline.

Responsibilities and tasks
The position covers research, education and innovation in offshore produced water management with an ambition to reach zero-emission in terms of environmental toxicity. The research field includes:

- Development of the new research area based on in depth analysis of current challenges in the oil sector and viable technical goals.
- Reduction of oil-in-water and development of improved monitoring techniques for enhanced control.
- Fundamental sciences to enable new technologies for the removal of dissolved compounds.
- Analytical techniques to monitor petroleum compounds and production chemicals in produced water
- Water reinjection and the impact of water quality on injectivity.
- Impact of different production chemicals in the separation of oil and water.

Due to the nature of our collaboration network model you should enjoy working with other research groups and providing advice and guidance based on your experience and knowledge as well as the interaction with DUC. This also means that you need to contribute to the success of others and taking pride in facilitating this.

While the DHRTC do not currently provide teaching courses per se, you may expect to develop courses within your area of expertise. Further, you will supervise PhD students working in the DHRTC as well as co-supervise students at DTU or other institutions in the DHRTC network.

The professor is expected to participate in teaching at the BSc, MSc, and PhD levels. For international candidates, DTU can provide Danish language courses enabling the candidates to teach in Danish within 2-3 years.

In addition, the candidate is expected to

- Strengthen both national and international collaboration
- Attract funding to the research programme.
- Publish and coordinate dissemination at an international scientific level.

Qualifications
You should have a strong scientific background in at least one or more of the above-mentioned disciplines, and significant understanding of the other disciplines and their role in oil and gas production.

You are driven by pushing boundaries and have the scientific authority to challenge existing hypotheses, concepts, procedures, and processes to enhance these or suggest new practices.

As the vision of DHRTC is to provide technical solutions at prototype level you should focus both on the process and on the outcome.

You thrive on collaboration and teamwork, as this is key to the success of the DHRTC.

You must have experience from leading and developing new research projects and programmes in both academic and corporate settings. The industrial experience should preferentially be in the oil and gas business such as operator or oil field services.

Assessment
In the assessment of the candidates, consideration will be given to:

- Documented experience and quality of teaching and curriculum development
- Research impact and experience, funding track record, and research vision
- Societal impact
- Documented innovation activities, including commercialization and collaboration with industry
- International impact and experience
- Leadership and collaboration
- Communication skills

We offer
DTU is a leading technical university globally recognized for the excellence of its research, education, innovation and scientific advice. We offer a rewarding and challenging job in an international environment. We strive for academic excellence in an environment characterized by collegial respect and academic freedom tempered by responsibility.

Salary and appointment terms
The appointment will be based on the collective agreement with the Danish Confederation of Professional Associations. The allowance will be agreed upon with the relevant union.

The position is available for a 5-year period and may be extended for up to 3 additional years. At the end of the period, the employee in question will transfer to a position as associate professor at the university. More information can be found here: Career paths at DTU**.**

Further information
Further information may be obtained from Research Director Lars Simonsen, tel.: +45 9351 1793 or from Centre Director Morten Jeppesen, tel.: +45 9351 8985.

You can read more about DHRTC at https://www.oilgas.dtu.dk/

Application procedure
Please submit your online application no later than **XXX 2019 (local time)**.

Applications must be submitted as **one pdf file** containing all materials to be given consideration. To apply, please open the link 'Apply online,' fill in the online application form, and attach **all your materials in English in one pdf file**. The file must include:

- Application (cover letter) addressed to the President
- CV
- A vision for future research
- Teaching and research statement, with a focus on the 'Assessment' bullet points listed above
- Documentation of previous teaching and research, as related to the 'Assessment' bullet points listed above
- List of publications indicating scientific highlights
- H-index, and ORCID (see e.g. http://orcid.org/)
- Diploma (MSc/PhD)

Applications and enclosures received after the deadline will not be considered.

All interested candidates irrespective of age, gender, disability, race, religion or ethnic background are encouraged to apply.