Jobbnorge ID: 289680
Deadline: 10.12.2025
Website: http://www.uis.no/
Scope: Fulltime
Duration: Fixed Term

Postdoctoral Fellow in Sustainable Geothermal Solutions with Solid Media Thermal Energy Storage

Job description

The University of Stavanger invites applicants for a position as Postdoctoral Fellow in Sustainable Medium-Depth Geothermal Solutions at the Faculty of Science and Technology, Department of Energy and Petroleum Engineering.

The aim of the position is for the successful candidate to develop a research profile and gain the qualifications required to be eligible for a position as an Associate Professor. Additionally, the position may provide valuable experience and other competencies relevant to the postdoctoral researcher's career development.

If the person being hired does not already have pedagogical competence that meets the requirements for employment as an Associate Professor, we will facilitate the acquisition of such competence during the employment period.

A career development plan will be drawn up, outlining the competencies the Postdoctoral Fellow is expected to acquire during the employment period. The Postdoctoral Fellow will also have access to career guidance throughout the postdoctoral period.

The Postdoctoral Fellow will be affiliated with the following project: Sustainable Medium-Depth Geothermal Solutions with Solid Media Thermal Energy Storage for Heating and Cooling (GeoSUSTAIN).

The qualifying project will be carried out at the University of Stavanger. It is assumed that the appointee will work full time on the project and that she/he will participate in the academic community.

Postdoctoral Fellow is employed for a period of three years. The employment period includes other career-enhancing work as teaching and supervision of students.

The position is funded by the Clean Energy Technology Partnership program.

About the research project

We are seeking outstanding candidates for a Post-Doc position in the field of Shallow Geothermal Energy Systems. As the urgency to combat climate change intensifies, innovative solutions for integration of renewable energy sources into the existing energy systems are getting more crucial than ever. This Post-Doc position is part of an European project aiming for using pilot-scale geothermal energy solutions for further development of technical and economic solutions to pave the way for widespread commercialization of integrated energy system solutions with shallow geothermal energy as the anchor point.

Beside project coordination, UiS will also lead the demonstration work package, where the main contribution and responsibility of the Post-Doc candidate will be. The project will leverage system integration and optimized operation using machine learning and AI techniques as key drivers for improving system performance.

The hired candidate will have the opportunity to work with cutting-edge energy systems at the Stavanger university's Energy Central, a unique "living lab" for energy research, and with leading European universities and research organizations.

The project, financed by Clean Energy Technology Partnership, will utilize the experimental capacities of the consortium partners including the Energy Central at UiS which consists of:

- 120 geothermal wells, 10 of which are dedicated to research, containing various types of borehole heat exchanger designs
- Two large-scale commercial heat pumps, each with a capacity of 1.3 MW
- Two innovative heat pumps utilizing supercritical CO_2 and propane respectively as the working fluid, which will serv as testbed for data generation and analysis of various methodologies
- Three gas boilers and two electric boilers
- Hot water accumulator and dry coolers

Solid state heat storage units and validated AI-based modeling and monitoring tools of the project partners will also be utilized and virtually integrated with the living lab. This advanced infrastructure, equipped with state-of-the-art measurement systems, will provide data for the development and validati

This Post -Doc position offers a unique opportunity to work in an applied research environment, utilizing the state-of-the-art pilot plant infrastructure for innovative, real-world applications.

Qualification requirements

You must have a PhD with a specialisation relevant for the project. The PhD thesis must have been submitted for evaluation within the application deadline for the position and approved before accession.

Candidates with a relevant background in fields such as mechanical engineering, energy system modeling, techno-economic analysis and applied AI are encouraged to apply. A combination of expertise in energy technology, techno-economy and machine learning is essential for the successful completion of this project and will be preferred.

In addition, you must have:

- a solid foundation in geothermal energy technology, system integration, and a strong understanding of artificial intelligence (AI), machine learning (ML), and data-driven modeling
- documented experience in modeling, coding, and programming
- documented experience from real-world energy projects or case studies related to energy systems integration
- strong documented knowledge on techno-economic analysis of energy systems
- good command of both oral and written English.

In the assessment the following criteria will also be emphasised:

- expertise in applying AI for optimization and control of energy systems
- experience with forecasting tools, and market data analysisrelevance, quality and feasibility of the project
- submitted scientific work and your personal skills for completing the project within the time frame
- international experience and network
- qualifications within the areas of creativity, innovation and commercialisation of research
- good teamwork, communication skills and ability to participate in research communities across organisational units
- ability to work independently in a structured manner
- motivation, sense of responsibility and accountability, work capacity and enthusiasm for research

We offer

- varied duties in a large, exciting and socially important organisation
- an ambitious work community which is developing rapidly. We strive to include employees at all levels in strategic decisions and promote an informal atmosphere with a flat organisational structure
- free Norwegian language courses if you do not have proficiency in Norwegian, Swedish, or Danish at level A2 at the time of employment
- access to Lifekeys, a digital service for the preservation of personal mental health and well-being
- salary in accordance with the State Salary Scale, l.pl 17.510, code 1352, NOK 590.000 - 680.000 gross per year. A higher salary may be considered in special cases. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.
- automatic membership in the Norwegian Public Service Pension Fund, which provides favourable insurance and retirement benefits
- favourable membership terms at a gym and at the university sports club, SiS sports club at campus
- employment with an Inclusive Workplace organisation which is committed to reducing sick leave, increasing the proportion of employees with reduced working capacity, and increasing the number of professionally active seniors
- Hjem-jobb-hjem, discounted public transport to and from work
- as an employee in Norway, you will have access to an optimal health service, as well as good pensions, generous maternity/paternity leave, and a competitive salary. Nursery places are guaranteed and reasonably priced.
- relocation programme

Diversity

Diversity is a resource in the working and learning environment at UiS. When we have different backgrounds and experiences, we can approach challenges from multiple perspectives and find better solutions. At UiS, we are committed to showing respect for each other's differences and accommodating employees with disabilities. We take into consideration your needs and your situation in various life phases.

If you find this position interesting, we encourage you to apply, regardless of gender, disability, cultural background, or whether you have been out of the workforce for a period.

If there are qualified applicants with disabilities, gaps in their CV, or immigrant backgrounds, we will invite at least one applicant from each of these groups for an interview. If you fall into any of these categories, feel free to indicate it when applying for the position. Learn more about the criteria for being considered an applicant in these specific groups here.

The university aims to recruit more women within the subject area. If several applicants are considered to have equal qualifications, female applicants will be given priority.

Application

To apply for this position please follow the link "Apply for this job". Your application letter, relevant education and work experience as well as language skills must be registered here. In the application letter, you must state your research interests and motivation for the position.

The following documents must be uploaded as attachments to your application:

- CV with a full summary of your education and experience
- documentation of approved PhD. If you have not completed the PhD, you may enclose a confirmation from the institution on the expected date of obtaining the doctoral degree.
- complete list of academic publications with information on where they are published. You may also upload up to 5 publications, including your PhD thesis or published monograph based upon the thesis.
- transcripts and certificates, and other documentation that you consider relevant

Applications are evaluated based on the information available in Jobbnorge on the application deadline. You should ensure that your application shows clearly how your skills and experience meet the criteria which are set out above.

The documentation must be available in either a Scandinavian language or in English. If the total size of the attachments exceeds 100 MB, they must be compressed before upload.

Please note that information on applicants may be published even if the applicant has requested not to be included in the official list of applicants - see Section 25 of the Freedom of Information Act. If your request is not granted, you will be notified.

UiS only considers applications and attachments registered in Jobbnorge.

General information

The engagement is to be made in accordance with the regulations in force concerning State Employees and Civil Servants, and the acts relating to Control of the Export of Strategic Goods, Services and Technology. If your application is considered to be in conflict with the criteria in the latter legislation, it will be rejected without further assessment.

Employment as Postdoctoral Fellow is regulated in Regulations to the Universities and Colleges Act, chapter IV.

We put emphasis on the quality, relevance and significance of the research work and not on where the work is published, in accordance with the principles of The San Francisco Declaration on Research Assessment (DORA).

UiS has signed The Agreement on Reforming Research Assessment (CoARA), committing to recognizing various forms of results, practices, and activities in the evaluation of research and researchers.

Your qualifications for the position, based on documentation registered in Jobbnorge, will be assessed by an internal expert committee. Based on the committee's statement, relevant applicants will be invited to an interview before any recommendations are made. References will also be obtained for relevant candidates. More about the hiring process on our website.

UiS has an Acquisition of Rights Agreement for the purpose of securing rights to intellectual property created by its employees, including research results.

The appointee will be based at the University of Stavanger. It is a prerequisite that you have a residence which enables you to be present at/available to the academic community during ordinary working hours.

The position has been announced in both Norwegian and English. In the case of differences of meaning between the texts, the English text takes precedence.

UiS - challenge the well-known and explore the unknown

The University of Stavanger (UiS) has about 12,000 students and 2,200 employees. The university has high ambitions. We strive to have an innovative and international profile, and be a driving force in knowledge development and in the process of societal change. Our common direction is driven by consideration for green and sustainable change and equitable social development, through new ways of managing natural resources and facilitating better cities and local communities. Energy, health and welfare, learning for life are our focus areas.

In constant collaboration and dialogue with our surroundings, regionally, nationally and internationally, we enjoy an open and creative climate for education, research, innovation, dissemination and museum activities. Academic life at the University of Stavanger is organised into six faculties comprising various departments/schools and National Research Centres, as well as the Museum of Archaeology. The university is located in the most attractive region in the country with more than 300,000 inhabitants. The Stavanger region has a dynamic labour market and exciting cultural and leisure activities.

Together with our staff and students we will challenge the well-known and explore the unknown.

The Faculty of Science and Technology offers study programs at bachelor, master and doctoral level. The faculty has established close cooperation on research with NORCE (Norwegian Research Centre AS) and the regional industry. A number of master's and doctoral theses are made in collaboration with the industry. The faculty has established research collaborations with universities in the US and Europe, and has developed several academic environments that are at the forefront internationally.The faculty has about 2,800 students and approximately 500 employees at the Department of Electrical Engineering and Computer Science, Department of Structural Engineering and Materials Science, Department of Mathematics and Physics, Department of Energy and Petroleum Engineering, Department of Energy Resources, Department of Chemistry, Bioscience and Environmental Engineering and the Department of Safety, Economics and Planning.

Department of Energy and Petroleum Engineering carries out research and offers study programs at all levels in Drilling Technology, Natural Gas Technology, Petroleum Engineering and Energy Technology. The department has established close research collaboration with relevant industry - especially in the petroleum and battery sector. The department focuses on internationalization, with the development of English study programs and high mobility among academic staff and students. There are currently 60 employees including research fellows and postdocs.

Additional information

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Place of service: