

The University of Agder offers more than 150 study programmes and an active and leading research environment. We emphasize respect, openness and the ability to show commitment and pride concerning both your own and others' results. Our 1100 staff and 11000 students enjoy daily life and scholarly activities at our modern and functional campuses in Kristiansand and Grimstad.

PhD Research Fellow in Technology with specialization in CM and CBM

The University of Agder invites applications for a full-time, fixed-term position as Research Fellow in Condition Based Maintenance for a period of three years, at the Department of Engineering Sciences, Faculty of Engineering and Science. The position is located in Grimstad, Norway and will be part of work-package WP5 in the research centre [SFI Offshore Mechatronics](#).

The WP5 of the SFI Mechatronics is led by the research institute Teknova AS, the work scope to be performed by the research fellow will be directed by Teknova AS in cooperation with University of Agder. The starting date is as soon as possible/negotiable.

Teknova and the University of Agder have an extensive network of Norwegian and international partner universities and university colleges.

Background for the position

Fiber ropes are a popular alternative to the commonly used steel wire rope for offshore applications with good properties such as reduced weight, natural buoyancy (for HMPE mooring ropes), and ease of handling. Even though fiber ropes have many good properties compared to steel wire ropes, they do not have the long heritage of research on different condition monitoring techniques as steel wire ropes do. Presently there are ranges of different non-destructive testing methods that can be applied to condition monitoring of fiber ropes, but presently there is no good overall method that allows the condition of a fiber rope to be properly determined.

Objective

The objective of this project is to develop a condition monitoring technique that allows the condition of fiber ropes for offshore applications to be determined using non-destructive testing. A large focus will be on obtaining experimental results using a method such as (e.g.) x-ray tomography, thermography, hyper spectral imaging, acoustics, computer vision or others and analyze the data to determine the condition of the rope (i.e. time to rupture).

Challenges and deliverables

There are many kinds of faults that must be considered for fiber ropes, including creep, internal and external abrasion, fiber breakage, flattening of rope, melting of fibers, extrusion of fiber loops etc. These mechanisms are not independent, but act together making the failure analysis complex. Expected results and deliverables are:

- experimental results using the selected technique to determine the condition of the rope
- development of new algorithms for determining the time-to-rupture based on the experimental results
- potentially develop new measurement methods that can be applied for condition monitoring of fiber ropes

The successful applicant should hold a master's degree (e.g. instrumentation, physics or engineering) that covers the above fields in a way so the applicant is capable of modeling, simulating and experimenting systems. Additionally, the candidate should have a basic understanding of material science to understand the relationship between the sensor output and what is happening with the rope. The position places great demands on the applicant's capacity for independent goal-oriented work, ability to concentrate and attention to detail. Applicants will be assessed on the basis of academic background and results, and any previous research and development work. Relevant industrial experience, personal suitability and good teamwork skills will also be emphasized.

The following admission requirements apply to the PhD program:

- the average grade for courses included in the bachelor's degree (or equivalent) must be C (or equivalent) or higher
- the average grade for courses included in the master's degree (or equivalent) must be B (or equivalent) or higher
- the master's thesis (or equivalent) must have a grade B (or equivalent) or higher when the candidate is admitted to the PhD program
- the successful applicant must have written and spoken English proficiency
- the position places great demands on the applicant's capacity for independent goal-oriented work, ability to concentrate as well as good communication and team-work skills in cooperation with research colleagues both inside and outside the university

Applicants from some countries must document their English proficiency through one of the following tests with the stated results or better:

- TOEFL - Test of English as a Foreign Language with a minimum score of 550 on the Paper-based Test (PBT), or 80 on the Internet based Test (iBT)
- IELTS - International English Language Testing System, with a result of at least 6.5.

Please check [this list](#) to see if an English test is required. Possible categories of applicants from particular countries may be exempted.

Please note that the English test requirement applies to applicants from most countries according to the list mentioned above. No other tests will be approved, and certifications/statements cannot replace a test.

Admission requirements

The candidate will be enrolled in the PhD programme at the Faculty of Engineering and Science. The applicant must qualify for admission to this PhD Programme. More information about the program and a complete list of admission requirements to the PhD programmes can be found [here](#).

Applications from applicants who already hold a PhD will normally not be considered.

Further provisions relating to the position as PhD Research Fellow can be found in the Regulations Concerning Terms and Conditions of Employment for the Post of Post-doctoral Research Fellow, Research Fellow, Research Assistant and Resident.

Short-listed applicants will be invited for interviews.

With the applicant's permission, UiA will also conduct a reference check before appointment.

Women are especially encouraged to apply.

The Norwegian public service is committed to reflecting the diversity of society, and the personnel policy of the University of Agder aims to achieve a balanced workforce. All qualified persons are therefore encouraged to apply for the position, irrespective of cultural background, gender, age or disability.

The successful applicant will have rights and obligations in accordance with the current regulations for the public service. Appointment is made by the University of Agder's Appointments Committee for Teaching and Research Positions.

The position is remunerated according to the State salary scale, salary plan 17.515, code 1017, salary grade 50 (NOK 430.500). A 2 % compulsory pension contribution to the Norwegian Public Service Pension Fund is deducted from the pay according to current statutory provisions.

Submit your application and CV online. Please click on the link "**Apply for this job**". The following documentation should be submitted as attachments to the online application:

- certificates and/or grades for all post-secondary education, up to and including the bachelor's level
- master's degree/higher degree certificate, with a summary of the courses/subjects included in the degree
- applicants with a foreign higher education must attach an official description of the grading system used at the issuing institution
- master's thesis (with a summary of approximately 1-2 pages if the thesis is not in English or a Scandinavian language)
- applicants who are required to document their English proficiency must submit their TOEFL or IELTS test results (these may be forwarded after the closing date)
- summary or links to the applicant's scientific publications (if any)

Original documents must be presented for verification to the University of Agder together with the copies by the appointed research fellow upon arrival at UiA. Successful candidates will be asked, normally during the interview, to ensure that the issuing university submits documents in a sealed envelope directly to UiA or provide access to their documents online, which allows UiA to verify the authenticity of these electronic documents via a secure website hosted at the issuing university (contact person at UiA will be provided later for certain candidates).

The applicant is fully responsible for submitting complete documentation within the deadline. Without complete documentation we cannot, unfortunately, include you in the assessment process.

All documentation of education must be in the original language and in English, Norwegian, Swedish, or Danish (if the original language is not one of these), and the translation should preferably be from the issuing university. Additional documentation must be in English, Norwegian, Swedish or Danish.

Closing date: 18.05.16

For further information please contact Dr. Thomas J.J. Meyer, tjim@teknova.no

In accordance with §25(2) of the Freedom of Information Act, applicants may request that they are not identified in the open list of applicants. The University, however, reserves the right to publish the name of applicants. Applicants will be advised of the University's intention to exercise this right.

Jobbnorge ID: 123739, Deadline: Closed