

## PhD scholarship in Strategic Maintenance Optimization in Asset Management

Would you like to obtain a PhD and work in close collaboration with industry on developing future operational maintenance strategies and Asset Management?

Then you might be our new colleague at the Section for Engineering Design and Product Development at DTU, Department of Mechanical Engineering. The section focuses on product design as well as systematic development of products and service systems. Applied research is central to the projects at the section and there is a wide portfolio of collaborations with companies of different organizational sizes and within different industries. The Section's strong competencies and knowledge within design methods is being expanded with a new focus on operational activities to reflect the development in industry.

The field of research focuses on systematic optimization of maintenance operations in asset management with an initial focus on the oil and gas industry. The research focuses on process optimization and asset management and relies on a quantitative approach, where historical data is analysed and future scenarios simulated, to create solutions that have sustainable impact on future operations.

### Responsibilities and tasks

The overall objective is to develop models for describing and developing modular maintenance architectures for entire systems. This requires that maintenance tasks can be segmented in order to optimize and configure maintenance strategies for the different segments. The benefit is a decrease in non-value adding variance and an increase in the effectiveness of the maintenance.

In your daily work, you will be a part of a dedicated research team that works in close collaboration on developing the research field. You will face a steep learning curve and experience direct industry collaboration with a big international company. You will be able to create value in both academia and industry and therefore have a strong position to continue your career within both.

In practice, the job will require you to:

- Manage and carry through your own research project, be self-starting and to take initiative in shaping and driving your project forward.
- Work in structured and data-driven manner in order to analyse, synthesize and develop maintenance architecture methodology.
- Take relevant PhD courses (30 ECTS).
- Publish in international peer reviewed journals and write a PhD thesis.
- Actively engage in teamwork with the other PhD students as well as with industry partners.
- Facilitate workshops and meetings with colleagues and company stakeholders.

## Qualifications

Candidates should have a two-year master's degree (120 ECTS points) or a similar degree with an academic level equivalent to a two-year master's degree.

## Approval and Enrolment

The scholarship for the PhD degree is subject to academic approval, and the candidate will be enrolled in one of the general degree programmes at DTU. For information about our enrolment requirements and the general planning of the PhD study programme, please see the [DTU PhD Guide](#).

## Assessment

The assessment of the applicants is conducted by the Head of Section, Professor Niels Henrik Mortensen and might involve rounds of both virtual and in person interviews.

## 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 period of employment is 3 years.

Primary workplace is DTU Lyngby Campus, but with frequent visits at the collaboration partner Maersk Oil in Esbjerg.

You can read more about [career paths at DTU here](#).

## Further information

Further information may be obtained from Professor Niels Henrik Mortensen, tel.: +45 4525 6275

You can read more about Department of Mechanical Engineering at [www.mek.dtu.dk/english](http://www.mek.dtu.dk/english).

## Application

Please submit your online application no later than **7 September 2019 (local time)**. Apply online at [www.career.dtu.dk](http://www.career.dtu.dk).

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

- A letter motivating the application (cover letter)
- Curriculum vitae
- Grade transcripts and BSc/MSc diploma
- Excel sheet with translation of grades to the Danish grading system (see guidelines and [Excel spreadsheet here](#))

Candidates may apply prior to obtaining their master's degree but cannot begin before having received it.

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

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

*DTU Mechanical Engineering covers the fundamental engineering disciplines within Solid mechanics, Fluid mechanics, Coastal and Maritime Engineering, Energy systems and energy conversion, Materials and Surface Engineering, Manufacturing Engineering, Engineering design and Product development. The department has a scientific staff of about 140 persons, 100 PhD students and a technical/administrative support staff of about 80 persons.*

*DTU is a technical university providing internationally leading research, education, innovation and scientific advice. Our staff of 6,000 advance science and technology to create innovative solutions that meet the demands of society, and our 11,200 students are being educated to address the technological challenges of the future. DTU is an independent university collaborating globally with business, industry, government and public agencies.*