

Professor (with special responsibilities) in Combustion Engines

DTU Mechanical Engineering at the Technical University of Denmark invites applications for a position as Professor (with special responsibilities) in Combustion Engines.

DTU Mechanical Engineering is contributing to research, innovation and education within the following scientific areas: Structural and solid mechanics, fluid and hydrodynamics, applied thermodynamics, manufacturing technology, engineering design and product development, materials- and surface engineering. Staff consists of 306 persons including a faculty of 60 and 115 PhD-students.

The professor will be affiliated to the Thermal Energy Section, which is one out of six sections in the department.

Responsibilities and tasks

DTU Mechanical Engineering has a strong research group working in the field of internal combustion engines. Research focus has been on DME (DiMethylEther) and ethanol as a fuel for internal combustion engines for automotive applications, and in recent years more research has been put into large two-stroke diesel engines for ship propulsion in close collaboration with industry. The research activities range from experimental measurement of fuel/lubricant and engine performance parameters to theoretical modeling of the thermodynamics and fluid mechanics behind the energy conversion and emissions formation during combustion. Also innovation and research based consultancy related to combustion engines is important.

The new professor has the responsibility for the continuation of the activities in the Internal Combustion Engine Group (ICEG) including research, teaching, innovation and consultancy. The professor also has the responsibility for student activities such as DTU's Ecocar where students train engineering skills when they design, build and operate a small, fuel efficient city car.

The successful candidate is expected to have extensive relations to other relevant (inter)national research groups in academia and industry. The new professor is also expected to establish relations to other relevant research groups at DTU working with combustion and emissions.

Responsibilities as project manager as well as active participation in acquiring external funding are mandatory. Furthermore, the successful candidate is expected to contribute to a continuous expansion of national and international networking activities.

Teaching involves courses and supervision at all university levels. The MSc and PhD studies are taught in English, whereas the BSc and Diploma studies are taught in Danish.

A position as Professor with Special Responsibilities is held for a limited time period and involves all the usual duties associated with a full professorship, as well as fixed-term specific duties which will vary according to the research program.

Qualifications

The qualification requirements correspond with those for ordinary professorships. Achievements are expected in extension of the position's qualification requirements, which are:

- Extensive original scientific output at international level
- Documented experience in one, preferably more, of the following three fields:
 - Research leadership, including management tasks in national and international projects, research programmes, conferences, etc.

- Teaching experience at different academic levels, and the potential for providing accomplished teaching.
- Innovation, including the application of research results in commercial contexts, etc.

Experience with management of a medium-sized research team is essential and the applicants are expected to have experience with attracting external funding for research and innovation.

Assessment

In the assessment of the candidate consideration will be given to

- the candidate's qualification for handling the special, function-related assignment(s) that are associated with the position
- scientific production at international level, research potential and ability to lead and develop a research team
- the ability to teach
- the ability to promote and utilize research results
- experience with innovation activities
- an all-round experience basis, including international experience
- the ability to contribute to the development of the department's internal and external cooperation
- the ability to attract funding to the research area
- visions within the research area

For the specific position consideration will also be given to:

- Experience from teaching on bachelor, master and PhD level including supervision of master and PhD-projects
- Experience from co-operation with industry
- Detailed understanding of IC engines in theory and practice
- Skills in IC engine related fields like thermodynamics, fuels, lubricants and combustion chemistry, CFD, measurement techniques etc.
- Skills in vehicle power train technology with weight on fuel economy and emissions
- research potential and ability to lead and develop a research team

Salary and appointment terms

The appointment will be based on the collective agreement with the Confederation of Professional Associations. The allowance will be agreed with the relevant union.

The position is available for a 5-year period and may be extended for up to 3 years more.

Further information

Further information may be obtained from Head of Department Henrik Carlsen, tel.: +45 4525 4171

You can read more about the Department of Mechanical Engineering on www.mek.dtu.dk

Application procedure:

Please submit your online application no later than **XXX 2015**. Apply online at 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 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
- Diploma (MSc/PhD – an official translation into English)
- List of publications indicating scientific highlights
- Documentation of teaching experience
- A plan for future research

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