

Professor (with special responsibilities) in Acoustic-Mechanical Micro Systems

DTU Electrical Engineering and DTU Mechanical Engineering at the Technical University of Denmark invite applications for a position as Professor with special responsibilities in Acoustic-Mechanical Micro Systems. The professor will be associated with a new joint Centre for Acoustic-Mechanical Micro Systems (CAMM).

Responsibilities and tasks

The professor is expected to be instrumental in building up and subsequently maintaining CAMM as an internationally leading centre within the field. The Professor will work together with the management of DTU Electrical Engineering and DTU Mechanical Engineering and with industrial partners to create a centre that serves as a unique platform for the development of the field of acoustic mechanical micro systems – a new field focusing on the acoustic and mechanical parameters involved in the process of analyzing and designing small audio systems and other miniaturized systems involving acoustics. Special attention is given to the interdependence between acoustic and mechanical parameters.

The position involves the following primary areas of responsibility:

- To lead and co-ordinate CAMM's scientific efforts in all areas of its research activities.
- To oversee the educational responsibilities of the centre
- To contribute to a collaboration between scientific and technical staff working within the area of small mechanical systems and acoustic systems.
- To contribute to collaboration with relevant acoustic and mechanical centres and sections across DTU and industrial co-workers when relevant.
- To build up CAMM's portfolio in areas of research that support further technological development within the area of personalized audio systems and other areas where micro systems are involved.

The research activities of CAMM will include but not be limited to the following areas:

- The development and application of numerical methods applicable to acoustic, mechanical systems and interaction between the two in the form of multiphysical systems.
- The development and application of methods within one or more of the areas of fluid dynamics applied to airflow over small objects, material properties and processability of thin-walled components, development of new types of materials with specific properties.
- The development and application of methods within one or more of the areas of contact models for finite element calculations (FEM), FEM applied to moving structures, FEM applied to acoustics in lossy media, simulation of air flow around small objects, FEM applied to material properties and processing conditions.
- Synthesis tools for small scale acoustic and multiphysics systems - for example using automated synthesis tools based on shape and topology optimization.

The successful candidate is expected to participate in teaching and education at the bachelor-, master- and PhD levels.

A position as Professor with Special Responsibilities involves all the usual duties associated with a full professorship, as well as fixed-term specific duties associated with the position.

Qualifications

Candidates should already have obtained well-documented international recognition within their research field. Employment implies original research at the highest international level within one or more of the above mentioned research themes.

The successful candidate should be able to document experience with teaching at university level. Experience in the management of a medium-sized research team is essential and outstanding communication skills are required. The candidate should also have a good track record regarding the acquisition of research funding.

Assessment

In the assessment of the candidates 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 substantially to the development of the DTU CAMM including internal and external cooperation
- the ability to attract funding to the research area
- visions within the research area

Furthermore consideration will be given to

- relevant scientific background and skills
- the ability to form strong and productive collaborations with both university partners and commercial partners.
- the ability to communicate at all levels
- a track record of interdisciplinary research

Salary and terms of employment

The appointment will be based on the collective agreement with the Confederation of Professional Associations. Any 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. It is, however, the intension to make a full professorship available within the field after 5 years. The place of employment will be DTU Electrical Engineering.

Further information

Further information may be obtained from Head of Department, Kristian E. Stubkjaer, phone +45 45 25 36 54 or Head of Department Henrik Carlsen +45 45 25 4171.

Application procedure:

We must have your online application by **XX 2013**.

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 (Rektor) of DTU
- CV
- 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.