

## **Professor in Space Magnetometry**

DTU Space at the Technical University of Denmark invites applications for a position as Professor in Space Magnetometry.

DTU Space is the leading institution of public space activities in Denmark. The mission of the Institute is to conduct research, development, public sector consultancy, education and innovation at the highest international level within the following areas: Space Technology & Instrumentation, Earth Observation & Geoscience and Space- & Astro-physics.

Through more than a decade DTU Space has emerged as a world leader in Space Magnetometry, through the launch, operations and science processing of magnetometers for high accuracy magnetic mapping of the Earth (Ørsted, CHAMP, SAC-C and Swarm). The position as professor in Space Magnetometry, is central to the strategic effort of DTU Space in the area of space technologies and magnetometry research. This focuses on the study of technologies for the accurate measurement of the magnetic field in space, as well as the design of space-mission concepts optimizing the science return, in order to perform high accurate observations from space.

The professor will be attached to the department of Measurement and Instrumentation Systems, which is one of the eight departments comprising DTU Space.

### **Responsibilities and tasks**

The successful candidate is expected to lead the institute's activities within space magnetometry. The assignments include research, teaching and, ideally, innovation and/or public sector services.

The successful candidate shall lead the magnetometry group, one of the institute's strategic research areas, and through research and collaboration with other research entities at DTU Space, strengthen DTU's international leading position in the field of mapping the magnetic field of the Earth. The research fields to be covered include: fundamental research in measurement techniques, space technology, and mission design concepts, as well as methods of magnetic metrology. This is emphasized by the recent launch of the ESA Swarm satellite mission, where DTU has designed, manufactured, qualified and calibrated the core science measurement principles, spacecraft layout and main instrumentation: The magnetometry package, which will perform observations of the geomagnetic field with unprecedented accuracy and deliver optimal science return through a formation flying configuration. It is expected, that the person selected will work at ensuring the maximum return from this mission, leading the international team of experts in magnetometry instrumentation on the mission.

The applicant must demonstrate successful research management experience, capability of cooperation with external partners, including major space agencies and international space industry, as well as experience in experimental and/or theoretical research in the field of magnetometry.

The primary tasks are:

- Research within Space Magnetometry, i.e. academic leadership, including identification and cultivation of new fields of research
- Design and lead of instrumentation to international space missions, based on high accuracy magnetometry
- Development of highly accurate space magnetometers for mapping the magnetic field from low Earth orbit
- Development of magnetometers for exploration of solar system bodies
- Methods and platform development for validation and verification of high performance space instrumentation systems, in particular, involving magnetometers
- Application of major space agencies' standards in science instrumentation for satellites

- Research-based teaching experience, including supervision of PhD, M.Sc., and B.Sc. projects as well as training of postdoctoral researchers
- External collaboration
- Other duties:
  - Pedagogical guidance and supervision of assistant professors
  - Academic assessment work
  - Knowledge exchange with society at large
  - Innovation and/or public-sector consultancy

The professorship will strengthen the collaboration between space instrumentation oriented groups at DTU Space and other DTU departments, e.g. DTU Electrical Engineering. Furthermore, partnerships with national and international industry partners will be developed.

The successful candidate is expected to take a lead position in teaching at the bachelor-, master- and PhD levels.

### Qualifications

The qualification requirements for this professorship are:

- A high level of original scientific production at international level that has contributed to further development of the subject area in question
- Education experience at university level
- Experience with research management, such as handling management assignments in national and international projects, research programmes, congresses, evaluation committees etc.

### Assessment

In the assessment of the candidates consideration will be given to

- the ability to teach
- scientific production at international level, research potential and ability to lead and develop a research team
- 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
- track record in attracting funding to the research area
- visions within the research area

### Salary and terms of employment

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

### Further information

Further information may be obtained from Director of DTU Space, Kristian Pedersen, +45 4525 9501.

You can read more about DTU Space at [www.space.dtu.dk](http://www.space.dtu.dk)

### Application procedure:

Please submit your online application no later than **XXX 2015**.

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
- List of publications indicating scientific highlights
- Documentation of teaching portfolio
- A plan for future research

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