



## Associate Senior Lecturer in Medical Radiation Physics with a focus on MR physics

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### Lund University, Faculty of Science, Department of Clinical Sciences, division of Radiation Physics

Lund University was founded in 1666 and is repeatedly ranked among the world's top universities. The University has around 47 000 students and more than 8 800 staff based in Lund, Helsingborg and Malmö. We are united in our efforts to understand, explain and improve our world and the human condition.

Lund University welcomes applicants with diverse backgrounds and experiences. We regard gender equality and diversity as a strength and an asset.

Medical radiation physics is a subject area where physics and various radiation applications meet biology and medicine. Our activities include research and teaching in ionizing and non-ionizing radiation, and its medical applications in radiation therapy, radiology, nuclear medicine, and magnetic resonance imaging (MRI). The research activities cover a wide range from basic scientific research to clinically applied studies in close collaboration with the healthcare system. The department is responsible for the five-year medical physicist education, which is a professional education regulated by the National Board of Health and Welfare, and which leads to work as a licensed medical physicist.

The main research focus of the MR physics group is on medical applications, especially related to imaging the morphology and function of the body on large and small scales. This includes, for instance, measurements of the tissue's microstructure, blood supply, brain activation, and metabolism (see further <https://www.msf.lu.se/research/mr-physics-group>). The research is of a high international standard, and members of the group hold several patents, prestigious grants and publications.

**Type of employment:** Fixed-term position, 6 years, in accordance with Chapter 4, Section 12a of the Higher Education Ordinance, with the opportunity for promotion to senior lecturer.

#### **Job description**

Employment as an associate senior lecturer is a career-development position which aims to develop the holder's independence as a researcher and educator.

The duties mainly include research and teaching, both at undergraduate, advanced and doctoral level. The position include teaching between 10-30% of full time. The type of tasks, as well as the distribution between teaching and research, may change over time.

The Faculty of Science offers a career programme for associate senior lecturers

The holder of the position should be able to maintain, strengthen and develop the department's research in MR physics. The applicant's profile and future research focus are expected to complement the existing research expertise within the MR physics group.

The holder of the position is expected to collaborate with researchers, medical physicists and physicians at Skåne University Hospital (e.g. within Radiation Physics, Oncology, and Imaging and Functional Diagnostics), within the framework of clinically related research projects and clinical trials, as well as in pre-clinical research e.g. at Lund University Bioimaging Centre (LBIC). Through the collaboration with the university hospital and through international grants, there is access to state-of-the-art equipment, including an upgraded 7 T MRI camera with new coils (2024), a new 3 T MRI camera with ultra-strong gradients (2025), a portable low-field MRI camera (2023), and an MRI linac (2025). This equipment enables a wide range of research activities.

To support the development of the associate senior lecturer's research activities, resources for funding of one doctoral student will be associated to the position. The holder of the position is expected to work actively to seek funding for existing research activities and to take a significant part in the development and management of the research group.

The holder of the position will teach mainly within his/her area of expertise, within in the Medical Physics Programme, as well as have course responsibility and conduct course development. The holder of the position shall, in collaboration with others in the research group, take responsibility for and develop doctoral courses in MR physics and related areas (e.g. in non-ionizing radiation) as needed. Supervision of degree projects and of doctoral students is included in the employment.

### **Qualification requirements**

A person is qualified for appointment as an associate senior lecturer if they have been awarded a PhD or have the corresponding research expertise. Primary consideration should be given to candidates who have been awarded a PhD or achieved the equivalent expertise within seven years before the deadline for the application for employment as an associate senior lecturer. A person who has been awarded a PhD or achieved the equivalent expertise at an earlier date may also be considered if there are special grounds.

For this position, a PhD in Medical Radiation Physics or equivalent subject area is required.

Teaching staff at Lund University are required to be suitable for the position and to have the general ability to fulfil their work duties well.

### **Assessment criteria**

Good ability to develop and implement high-quality research as well as pedagogical ability. The main assessment grounds are scientific and pedagogical skill, of which more weight is attached to scientific skill.

Particular emphasis will be placed on the applicant's research plan and potential to develop and carry out innovative research in MR physics. MR physics research in Lund strives to maintain a considerable breadth to be able to connect to the entire spectrum of relevant clinical issues and to make full use of available MR equipment and other infrastructure. The MR physics group currently has strong scientific expertise in the MR diffusion area, and the applicant's profile and future research direction are therefore primarily expected to complement other parts of the MR area.

The requirements for the position, which must be documented in the application, are:

- A broad knowledge of MR physics and a solid experience of MR physics from clinical applications or from research in a clinical or preclinical environment.
- Scientific skills as shown by scientific publications in the subject area.
- Experience of and skills in the development of novel contrast mechanisms, quantitative MRI methods and/or MRI imaging methods, acquired in a clinical or preclinical MRI setting.
- Relevant postdoctoral experience at another research environment than where the PhD was obtained.
- Active research in the subject area.
- An independent research plan must be enclosed, with the potential to be used as a basis for external funding.

- Basic knowledge for teaching in the sub-areas of the medical physics programme and in related courses.
- Ability to present his/her own research at a local, national and an international level.

Specific qualifications of additional merit:

- Experience in programming of MRI systems and software development for scientific purposes.
- Experience of research and operations with MRI systems linked to other modalities such as PET, SPECT or accelerators.
- Experience of clinical research and research collaborations with health care and industry.
- Professional experience as a clinically active physicist in the field of MRI.
- Medical Physicist License.
- Experience of national or international research collaborations.
- Experience of management assignments and committee work.
- Experience of applying, obtaining and administering research funding.
- Experience of teaching and supervision at undergraduate, advanced and doctoral level.

Personal qualities:

- Important personal qualities are good communication skills, flexibility, ability to cooperate, and independence, as well as an interest and aptitude to teach and collaborate with the surrounding community.

Language requirement

- Good knowledge of Swedish and English, in speech and writing, with good communication skills is a requirement.

When appointing teaching staff, Lund University's Appointment Rules apply, in addition to the provisions set out in the Higher Education Ordinance.

### **What we offer**

Lund University is a public authority which means that you receive special benefits, generous annual leave and an advantageous occupational pension.

Read more on the University website about working with us.

### **Design and content of the application**

We recommend you write your application in English, as it may be reviewed by international external experts. The application is to be completed according to the Faculty of Science's application instructions for teaching positions. Upload the application to the recruitment system as PDF files.

### **Promotion**

An associate senior lecturer is, on application, to be promoted to senior lecturer employed for an indefinite period if they have the required qualifications and are deemed to be suitable with reference to the assessment criteria established by the Faculty of Science when applying for promotion. An associate senior lecturer can only apply for promotion once.

Assessment criteria for promotion to a permanent position as senior lecturer:

#### **1. *Good national and international standing as a researcher***

The applicant conducts research of high quality that garners attention nationally and internationally

The applicant conducts research with a clear, independent profile.

#### **2. *Good teaching ability***

The applicant has good knowledge of the subject and can apply these in practice when teaching.

The applicant has good teaching skills and demonstrates an ability to develop their teaching within the subject area.

The applicant has a reflective approach to teaching and learning.

The applicant has five weeks' training in teaching and learning in higher education, or the equivalent.

**3. Ability to participate in the supervision of doctoral students**

The applicant has documented experience and the ability to supervise doctoral students.

The applicant has a reflective approach to the supervision of doctoral students.

The applicant has at least two weeks' training in supervision, or the equivalent.

**4. Ability to engage with wider society and communicate their activities**

The applicant has documented experience and the ability to engage with wider society and communicate their activities.

**5. General ability to lead and develop activities**

The applicant has documented experience of and ability in academic leadership.

Within the Faculty of Science research and education is conducted within Biology, Astronomy, Physics, Geosciences, Chemistry, Mathematics and Environmental Sciences. The Faculty of Science is organized into eight departments, gathered in the northern campus area in Lund. The Faculty of Science has approximately 1500 students, 330 PhD students and 700 employees.

We kindly decline all sales and marketing contacts.

<b>Type of employment</b>	Temporary position
<b>Contract type</b>	Full time
<b>First day of employment</b>	September 1 or by agreement
<b>Salary</b>	Monthly
<b>Number of positions</b>	1
<b>Full-time equivalent</b>	100
<b>City</b>	Lund
<b>County</b>	Skåne län
<b>Country</b>	Sweden
<b>Reference number</b>	PA2024/3674

**Contact**

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**Union representative**

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