

Two PhD student positions in Physics

Faculty of Physical Sciences – University of Iceland

The Faculty of Physical Sciences seeks applicants for **two PhD student positions** within the field of *magnetic materials for spintronics*. The positions are funded for three years by the University of Iceland Research Fund and by the Icelandic Research Fund.

Field of work

Magnetic data storage and memory relies on the efficient manipulation of the magnetic state of nanoscale magnets. The ability to switch magnetic states without applying external magnetic fields is crucial as it allows a reduction in device size and energy consumption. The tuning of magnetic properties through strain, interlayer coupling, and proximity effects is key to making this possible. The objective of the PhD projects is to study magnetic switching using electrical current in layered magnets for memory applications. The students will examine a range of magnetic heterostructures and explore how the magnetism and switching dynamics can be tuned. The work will involve thin film deposition, patterning, and structural, magnetic and electrical characterization of magnetic films and nanostructures at local and international facilities. The PhD students will be expected to communicate results at international conferences and in scientific journals.

The research group

The supervisors will be Dr. Fridrik Magnus, Research Professor at the Science Institute, and Dr. Snorri Þorgeir Ingvarsson, Professor of Physics at the Faculty of Physical Sciences. The Experimental Magnetism group currently consists of three academic staff and four PhD students, and is located at the University of Iceland Nanotechnology Centre.

Qualification requirements

Applicants should have an MSc degree in physics, engineering physics, materials science, or related fields. Experience of thin film deposition and magnetic characterization is preferable. The applicant must be able to work independently and as part of a team. Proficiency in both written and spoken English is required.

How to apply

Applications should be submitted via the University's online application system. Applications shall include:

- A cover letter describing the student's research interests and reasons for applying (1 page maximum).
- Curriculum vitae (3 page maximum).
- Copies of university diplomas (BSc and MSc) and course listings with grade information (in English).
- Names and contact information of two potential references.

All applications will be answered and applicants will be informed about the appointment when a decision has been made.

Application Deadline

The deadline for applications is October 16th 2023.

Further information

For further information please contact Dr. Magnus (fridrikm@hi.is) or Prof. Ingvarsson (sthi@hi.is).

The start date of the PhD position is negotiable but preferably around December 1st 2023.

Appointments to positions at the University of Iceland are made in consideration of the Equal Rights Policy of the University of Iceland (<http://www.hi.is/haskolinn/jafnrettisaaetlun#markmid2>). The University of Iceland has a special Language Policy (https://www.hi.is/haskolinn/malstefna_haskola_islands).

The School of Engineering and Natural Sciences employs approximately 360 people in academic positions. The School offers an international working environment, with the number of international employees and students increasing each year. Currently about a quarter of all employees and graduate students are international. There are around 2900 students at the School, divided into six faculties, including approximately 350 MS students and 150 doctoral students. Research institutes at the School are the Science Institute that divides into the Institute of Earth Sciences and Institute of Physical Sciences, Institute of Life and Environmental Sciences, Engineering Research Institute and the Institute for Sustainability Studies which is an interdisciplinary institute and belongs to the five schools of the University of Iceland.

More information about the University of Iceland can be found [here](#).