

Sweden:PhD position in Materials Physics

PhD position in Materials Physics at the Department of Physics and Astronomy.

The Department of Physics and Astronomy is the second largest at Uppsala University with more than 360 employees and 11 different divisions and is situated at Ångström Laboratory in Uppsala.

Webpage: <http://www.physics.uu.se>

Information about the project: The project will develop the conceptually new paradigm for ultra-dense and ultrafast magnetic storage that is posed to exceed the current technology by two orders of magnitude in storage density and by about four orders of magnitude in operation speed. This will be achieved in an all-optical magnetoplasmonic platform that would allow deterministic, non-thermal, low-energy, ultrafast magnetization switching at few nanometers and potentially down to a molecular length-scale. The project will elucidate the fundamentals of such process, will demonstrate its practical realization and will map its suitability for future upscaling towards industrial implementation in devices. The project is a European venture, coordinated by the University of Gothenburg, combining seven universities and research centers in Sweden, Spain, Netherlands, UK, Italy and Switzerland and a large synchrotron radiation facility and a major hard-drive manufacturer.

You will participate in experimental work in nanofabrication of magnetoplasmonic arrays and characterize them with optical and magneto-optical spectroscopy. Furthermore, magnetic microscopy and magnetization dynamics studies will be included in the project.

The work will be performed at the Division of Materials Physics of the Department of Physics and Astronomy, Uppsala University. Please see <http://www.physics.uu.se/research/materials-physics+/> for more information about the research in the Division of Materials Physics.

Qualifications:

Applicants should have knowledge corresponding to a degree of Masters of Science in Physics, Chemistry, or Materials Science. Good computer skills are a merit, as well as good knowledge of condensed matter physics, mathematics and practical laboratory experience. Good knowledge of the English language in writing and speaking as well as the eagerness to learn the Swedish language is mandatory. The position will require work at international facilities, such as neutron and synchrotron sources as well as using the excellent laboratories in Uppsala.

Application procedure:

Your application must include a personal letter with a short description of yourself and the reasons why you are interested in the position. You must also include a CV, authorized copies of degrees and diplomas, copies of your bachelor or master thesis and other documents, such as publications, that you want to invoke. Names and contact details of at least two scientists that have offered to act as references for you must also be included, with a clear indication of their relationship to you.

Rules governing PhD candidates are set out in the Higher Education Ordinance Chapter 5, §§ 1-7 and in Uppsala University's **rules and guidelines** .

Uppsala University aims for gender balance and diversity in all activities in order to achieve a higher quality at all levels of the organization. We therefore welcome applicants of any gender and with different birth background, functionality and life experience.

Salary : According to local agreement

Starting: 2017-02-01 or as otherwise agreed.

Type of employment: Temporary position.

Working hours: 100 %

Tentative Submission Deadline : 15 January 2017

[Further Information](#)