

## Postdoctoral fellowship in exchange-bias systems

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**Uppsala University (UU)** is an international research university focused on the development of science and education. The most important assets of the University are all the individuals who, with their curiosity and their dedication, make Uppsala University one of Sweden's most exciting work places.

The **Division of Solid State Physics** is part of the **Department of Engineering Sciences** and is located at Ångström laboratory in Uppsala. At the Division of Solid State Physics, we conduct both basic and application-oriented research. We are working on different research topics that involve the built environment energy systems, magnetic materials, and materials for energy, efficiency, and environmental applications. As part of our research, several companies have been started.

Webpage: <https://www.teknik.uu.se/solid-state-physics+/>

**Information about the project:** The project will focus on the design and investigation of exchange-bias systems using bilayer magnetic heterostructures. The materials of interest are double perovskite oxides. The candidate will fabricate the heterostructures using pulsed laser deposition and characterize them using basic and advanced tools. S/he will test their applicability for practical purposes through magnetic measurements and other complementary techniques.

The work will be performed at the Solid State Physics Division, Department of Engineering Sciences, Uppsala University, in collaboration with the Quantum Device Physics Laboratory at the Department of Microtechnology and Nanoscience – MC2, Chalmers University of Technology, Gothenburg (Assoc. Prof. Alexei Kalaboukhov) for growth of thin films and heterostructures using pulsed laser deposition. The position will, therefore, necessarily involve regular travels between Uppsala and Gothenburg.

**Major responsibilities:** The postdoctoral scholar will be involved in the experimental work. S/he will be responsible for the fabrication of the heterostructures and in-depth magnetic studies.

**Position summary:** Experimental research in the field of exchange-bias systems. Full-time scholarship. The position is initially for a period of 2 years (1+1), with possibility of further extension.

**Qualifications:** Highly motivated candidates with a doctoral degree in a relevant field. Demonstrated experience in film growth using pulsed laser deposition is a must. Knowledge of double perovskite systems and experience in handling SQUID magnetometer will be considered a merit. The candidate should be willing to learn new techniques and develop new methods during the course of the project. Expertise in programming for analysis and/or instrumentation and presentation of scientific results should be outlined in the application. Adequate knowledge of English is a requirement.

**The application should be written in English and include:**

1. A letter of motivation with a short description of your research interests, and why you feel you are a good match for the project (maximum two pages, ideally one).
2. CV, including a description of the relevant skills and experiences, as well as a full publication list.
3. A copy of your Ph.D. degree or date of thesis submission.
4. Contact information of a minimum of two (ideally three) individuals, who can provide letters of reference to support your application, with a brief mention of how these individuals are professionally related to you.

Please send your application to [tapati.sarkar@angstrom.uu.se](mailto:tapati.sarkar@angstrom.uu.se)

**Starting date:** March 01, 2020 or as mutually agreed upon.

For further information about the position and scientific aspects of the application, please contact Dr. Tapati Sarkar, Division of Solid State Physics, Department of Engineering Sciences, Uppsala University, Sweden (email: [tapati.sarkar@angstrom.uu.se](mailto:tapati.sarkar@angstrom.uu.se)).