

PhD Research Fellow in Theoretical Physics - Antiferromagnetic Spintronics and Spinmechatronics

About the position

A 100 % position is available at the University of Agder, Faculty of Engineering and Science as a PhD Research Fellow in theoretical physics, affiliated to the [Department of Engineering Sciences](#). The position is located at Campus Grimstad. Expected start date is in August 2019.

The successful candidate will pursue his/her PhD studies for a total period of 36 months and will be connected to the PhD programme in Engineering and Science at the Department of Engineering Sciences.

Responsibilities

Spin-based electronics, or spintronics, is a technology that uses the spin property of the electron in electronic applications. Two important factors that determine the applicability of spin-based devices in general are how fast they operate and how stable they are against external perturbations (in particular, magnetic fields). In this context, antiferromagnets are very promising due to their high characteristic frequencies and vanishing net magnetization.

In this project, we will investigate the complex interplay between the spin, charge and mechanical degrees of freedom in metallic antiferromagnets. In particular, we aim to explore the spinmechatronic properties and study how antiferromagnets can be used to develop ultra-small magnetic engines and charge/spin pumps that are driven by the collective spin excitations of the magnetic material.

The project is led by Prof. Kjetil M. D. Hals at UiA and will be carried out in close collaboration with the TWIST group at the Johannes Gutenberg Universität Mainz (JGU) in Germany headed by Dr. Karin Everschor-Sitte.

Required qualifications

Provisions relating to the positions as PhD Research Fellows can be found in the [Regulations Concerning Terms and Conditions of Employment for the post of Post-Doctoral Research Fellow, Research Fellow, Research Assistant and Resident](#).

The applicant for the PhD position must have an MSc (or equivalent) in physics or nanotechnology or a closely related field. This year's candidates who are in the closing stages of their master's degree can also apply. We require a solid background in condensed matter theory or related theoretical areas in physics or nanotechnology. For [further information about general requirements](#).

The position requires spoken and written fluency in the English language. Such evidence might be represented by the results of standard tests such as TOEFL, IELTS, Cambridge Certificate in Advanced English (CAE) or Cambridge Certificate of Proficiency in English (CPE). The candidate's language skills might also be assessed in a personal interview.

A prerequisite for employment is that the candidate is to be admitted to UiA's PhD programme at the Faculty of Engineering and Science.

Personal qualities

The position places great demands on the applicant's capacity for independent goal oriented work. Relevant practical experience, personal suitability and good teamwork skills will also be emphasized.

We offer

- International mobility to work closely with the project partners in Germany and to present the work at international conferences.
- Guidance and support to identify and apply for relevant grants.
- A professionally stimulating working environment
- Membership of the [Norwegian Public Service Pension Fund](#)

[More about working at UiA.](#)

The position is remunerated according to the State Salary Scale, salary plan 17.515, code 1017 PhD Research Fellow, NOK 449 400 gross salary per year. A compulsory pension contribution to the Norwegian Public Service Pension Fund is deducted from the pay according to current statutory provisions.

General information

A good working environment is characterized by its diversity. We therefore encourage all qualified candidates to apply for the position, irrespective of gender, age, disability or cultural background. UiA is an IW (Inclusive Workplace). Women are strongly encouraged to apply for the position.

The successful applicant will have rights and obligations in accordance with the current regulations for the position, and organizational changes and changes in the duties and responsibilities of the position must be expected. Appointment is made by the UiA's Appointments Committee for Teaching and Research Positions.

Short-listed applicants will be invited for interviews. With the applicant's permission, UiA will also conduct a reference check before appointment. Read more about the [employment process](#).

In accordance with the Freedom of Information Act § 25 (2), applicants may request that they are not identified in the open list of applicants. The University, however, reserves the right to publish the names of applicants. Applicants will be advised of the University's intention to exercise this right.

Application

The application and any necessary information about education and experience (including diplomas and certificates) are to be sent electronically. Use the link "**Apply for this job**".

The following documentation must be uploaded electronically:

- CV and application letter summarizing the applicant's motivation and accomplishments.
- Diplomas and transcripts with grades from your Bachelor and Master degrees.
- Diploma Supplement for completed degrees from EU universities (applicants from non-EU universities are advised to attach an explanation of the grading system)
- Documentation of English language proficiency.
- Copy (or links) to Master's thesis (or equivalent)
- Three references and/or letters of recommendation, all including contact details.

The applicant is fully responsible for submitting complete digital documentation before the closing date. Without complete documentation we cannot, unfortunately, include you in the assessment process. Please note that all documents should be in English.

Candidates from universities outside Norway are kindly requested to send a [Diploma Supplement](#) or a similar document, which describes in detail the study and grade system and the rights for further studies associated with the obtained degree.

Closing date: 04.06.19.

Contact

For questions about the position:

- Professor Kjetil Magne Dørheim Hals, tel. +47 37 23 31 06, mobile +47 970 95 784, e-mail kjetil.hals@uia.no

For questions about the application process:

- Higher Executive Officer Lise Askbo Fylkesnes, tel. +47 37 23 31 25, mobile +47 907 76 434, e-mail lise.a.fylkesnes@uia.no
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University of Agder

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