Jobbnorge ID: 180820
Deadline: 1/31/2020
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of Geoscience and Petroleum has a vacancy for a

3 years PhD position in fundamental natural fine-particle magnetism - IV39/20

This is NTNU

At NTNU, creating knowledge for a better world is the vision that unites our 7 000 employees and 40 000 students.

We are looking for dedicated employees to join us.

Video: https://www.youtube.com/watch?v=clgKd1SwGLI

About the position

Magnetic measurements in geophysics provide unique insights: into the history of the Earth, into its geodynamo and plate tectonics, and - by fingerprinting iron minerals - into environmental transport and transformation processes. Our research group has national and international impact and closely collaborates with other leading groups in rock magnetism. We are involved in developing new theories and applications in fine particle magnetism by combining field work, physical experiments and advanced mathematical models. For this task we are looking for a highly motivated PhD candidate to develop large-scale mean-field models of natural magnetic minerals, extensions of the open-source micromagnetic code MERRILL, and to design automation solutions for related measurement techniques. The focus of the work is to understand the influence of stress on magnetization in terrestrial and extraterrestrial rocks. The PhD candidate will be expected to visit international collaborating research groups and to present results at international conferences.

The candidate must have a strong background in mathematics and physics, experience in scientific programming (Python, FORTRAN), a keen interest in geophysical applications, and proven writing skills.

The PhD position will be at the Geophysics group (Prof. Fabian) at the IGP, NTNU. The successful candidate will be offered a three-year position. The workplace is Trondheim.

The latest startup date is August 2020.

The position reports to the Head of Department.

Main duties and responsibilities

- Developing and implementing micromagnetic modeling algorithms for MERRILL
- Applying fundamental physical models to large natural magnetic systems
- Developing magnetic measurement techniques for stressed magnetic systems
- Publication of results in international scientific journals

Qualification requirements

The main objective of the PhD-position is to qualify for work in research. The qualification requirement is completion of a master degree, or second degree (equivalent to 120 credits) at the time of employment with a strong academic background in mathematics, physics, or geophysics, or equivalent education with a grade of B or better in terms of NTNU's grading scale. Applicants with no letter grades from previous studies must have an equally good academic foundation. Applicants who are unable to meet these criteria may be considered only if they can document that they are particularly suitable candidates for education leading to a PhD degree.

The appointment is to be made in accordance with the regulations in force concerning State Employees and Civil Servants and national guidelines for appointment as PhD, postdoctor and research assistant

NTNU is committed to following evaluation criteria for research quality according to The San Francisco Declaration on Research Assessment - DORA.

Other qualifications

- Familiarity with solid state physics is desirable
- Familiarity with scientific measurement techniques, optimally in magnetism
- Applicants who do not master a Scandinavian language must document good written and oral English language skills.

Personal characteristics

- The candidate needs the ability to work independently and to efficiently collaborate with international research teams
- The candidate must be self-motivated to apply theoretical expertise to geological questions
- The candidate should be interested in supporting joint field campaigns and laboratory work

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability, as well as motivation, in terms of the qualification requirements specified in the advertisement

We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and inclusive work environment with dedicated colleagues
- favourable terms in the Norwegian Public Service Pension Fund
- employee benefits

Salary and conditions

PhD candidates are remunerated in code 1017, and are normally remunerated at gross from NOK 479 600 before tax per year. From the salary, 2 % is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is 3 years without required duties. Appointment to a PhD position requires admission to the PhD programme in Engineering (https://www.ntnu.edu/iv/doctoral-programme).

As a PhD candidate, you undertake to participate in an organized PhD programme during the employment period. A condition of appointment is that you are in fact qualified for admission to the PhD programme within three months.

The engagement is to be made in accordance with the regulations in force concerning State Employees and Civil Servants, and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criterias in the latter law will be prohibited from recruitment to NTNU. After the appointment you must assume that there may be changes in the area of work.

General information

A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background. Under the Freedom of Information Act (offentleglova), information about the applicant may be made public even if the applicant has requested not to have their name entered on the list of applicants.

The national labour force must reflect the composition of the population to the greatest possible extent, NTNU wants to increase the proportion of women in its scientific posts. Women are encouraged to apply. Furthermore, Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life (http://trondheim.com/). Having a population of 200 000, Trondheim is a small city by international standards with low crime rates and little pollution. It also has easy access to a beautiful countryside with mountains and a dramatic coastline.

Questions about the position can be directed to Professor Karl Fabian, e-mail karl.fabian@ntnu.no.

About the application:
Publications and other academic works that the applicant would like to be considered in the evaluation must accompany the application. Joint works will be considered. If it is difficult to identify the individual applicant's contribution to joint works, the applicant must include a brief description of his or her contribution.

Please submit your application electronically via jobbnorge.no with your CV, diplomas and certificates. Applications submitted elsewhere will not be considered. Diploma Supplement is required to attach for European Master Diplomas outside Norway. Chinese applicants are required to provide confirmation of Master Diploma from China Credentials Verification (CHSI): http://www.chsi.com.cn/en/).

Applicants invited for interview must include certified copies of transcripts and reference letters. Please refer to the application number IV-39/20 when applying.

Application deadline: 31.01.2020.

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The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Department of Geoscience and Petroleum

We conduct teaching and research related to management of Earth’s geological resources. Norway’s rich resources of wind, water, oil, gas and minerals have been and are essential to the country’s prosperity, and will continue to be in the future. The Department plays a key role in the development of technology and the education of graduates who enable value creation based on our natural resources. The Department of Geoscience and Petroleum is one of eight departments in the Faculty of Engineering.

Additional information

Place of service:

Department of Geoscience and Petroleum 7491 Trondheim (Trondheim Municipality)