The Department of Mathematical Sciences, NTNU, has vacancy for a Post Doc fellowship on spatial and spatio-temporal statistics

Statistical models and methods for large-scale spatio-temporal data

About the position
The Department of Mathematical Sciences, NTNU, has vacancy for a Post Doc fellowship on spatial and spatio-temporal statistics. The Post Doc position is part of the Centre for Geophysical Forecasting (CGF), which is one of the newly established Norwegian centres for research-driven innovation, funded by The Research Council of Norway and industry partners.

The goal of the CGF is to become a world-leading research and innovation hub for the geophysical sciences, creating innovative new products and services in earth sensing and forecasting domains. As the global ecosystem enters a period of dramatic change, there is a strong need for accurate monitoring and forecasting of the Earth. Examples include landslides, avalanches, earthquakes, groundwater and hydrocarbon resources and safe underground CO2 storage.

Norway is already at the forefront of global exploration geophysics and we intend to leverage that expertise to create the world-leading research and innovation centre for sustainable resource exploitation. The main objective here is to better understand and sustainably exploit the tremendous value of the earth’s crust. Key research and innovation areas include new ways to monitor the geological storage of CO2, reconfiguring petroleum production, and to develop new geohazard early warning systems.

The primary focus for the CGF will be to bring valuable, cost-effective and robust geophysical monitoring and forecasting services to Carbon Capture and sequestration (CCS), hydrocarbon and geohazard/geoengineering markets, creating both new market segments for partners and establishing successful spin off companies.

The CGF will catalyse a new wave of geophysical capabilities, much broader than hydrocarbon exploration and production, applying disruptive new technologies to novel enterprises that will be game changers in the transition from hydrocarbon geophysics to the new blue economy and to important terrestrial geohazard risk monitoring and early warning applications.

The successful applicant will work at the CGF premises at NTNU in Trondheim with our team of key researchers. The Post Doc research fellowship will be hosted by the Department of Mathematical Sciences. A successful candidate will be offered a two-year position, which could potentially be extended with teaching duties. The CGF has close contact with industry partners Aker BP, ASN, BaneNor, Digital Geologi, Equinor, NPRA (Statens Vegvesen), NVE, Tampnet, TietoEvry and Uninett, as well as research partners NORSAR and Jamstec in Japan.

Duties of the position
The Post Doc project will be conducting statistical research on the properties of spatial and spatio-temporal methodologies for doing inference from various geophysical data types. Such approaches are crucial for getting reliable predictions with realistic uncertainties and correlation structures in many geoscience applications; petroleum industry, groundwater resources, geohazards, and CO2 storage monitoring programs, etc.

A core component of the Post Doc's project is a Bayesian framework that allows for coherent interpretable modeling approach while honoring large-size spatio-temporal data. The Post Doc will work on the statistical foundation for such a framework. An important part of the Post Doc project is also to use research developments in partner applications, and in doing so disseminating research and innovation results.

The Post Doc research work will be in a team of scientists in statistics, computer science, electronic systems and geophysics. You will hence be part of a cross-disciplinary team all working towards a common goal in the center.

Required selection criteria
A postdoctoral research fellowships is a qualification position in which the main objective is qualification for work in academic positions. You must have completed a Norwegian doctoral degree in Statistics or corresponding foreign doctoral degree recognized as equivalent to a
Norwegian doctoral degree is required.

If, for any reason, you have taken a career break or have had an atypical career and wish to disclose this in your application, the selection committee will take this into account, recognizing that the quantity of your research may be reduced as a result.

We are looking for a highly motivated candidate with a PhD degree in statistics. Knowledge and experience with spatial statistics or other large-scale uncertain systems are an advantage.

PhD students who expect to complete their degree studies by 2021 are encouraged to apply. Employment will then start when the PhD degree is finished.

The applicants who do not master a Scandinavian language must document a thorough knowledge of English (equivalent to a TOEFL score of 600 or more).

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, post doctor and research assistant.

**Personal characteristics**

In the evaluation of which candidate is best qualified, emphasis will be placed on education and experience, as well as personal suitability for this position which include

- Willingness to learn new fields in a multidisciplinary research environment.
- Strong implementation and programming knowledge.
- Excellent communication skills.

**We offer**

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

**Salary and conditions**

Postdoctoral candidates are placed in code 1352, and are normally remunerated at gross from NOK 545 300 per annum before tax, depending on qualifications and seniority. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

The employment period is 2 years. The department might have the opportunity to offer an extension for teaching duties.

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 criteria 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.

The position is subject to external funding.

It is a prerequisite you can be present at and accessible to the institution daily.

**About the application**

The application and supporting documentation to be used as the basis for the assessment must be in English.

Publications and other scientific work must follow the application. Please note that applications are only evaluated based on the information available on the application deadline. You should ensure that your application shows clearly how your skills and experience meet the criteria which are set out above.

The application must include the following:

- CV which includes information about education background, publication record and work experience.
- Certified copies of relevant transcripts and diplomas. Candidates from universities outside Norway are kindly requested to send a Diploma Supplement or similar documentation, which describes in detail the program of study, the grading system, and the rights to further studies associated with the degree obtained.
- Contact information for two references.
- Documentation of fluency in the English language.

Joint works will be considered. If it is difficult to identify your contribution to joint works, you must attach a brief description of your participation.

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

**General information**

*Working at NTNU*
A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background.

The city of Trondheim is a modern European city with a rich cultural scene. Trondheim is the innovation capital of Norway with a population of 200,000. The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is probably the best of its kind in the world. Professional subsidized day-care for children is easily available. Furthermore, Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life and has low crime rates and clean air quality.

As an employee at NTNU, you must at all times adhere to the changes that the development in the subject entails and the organizational changes that are adopted.

In accordance with The Public Information Act (Offentliglova), your name, age, position and municipality may be made public even if you have requested not to have your name entered on the list of applicants.

If you have any questions about the position, please contact Håkon Tjelmeland (haakon.tjelmeland@ntnu.no) or Jo Eidsvik (jo.eidsvik@ntnu.no).

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).

If you are invited for interview you must include certified copies of transcripts and reference letters. Please refer to the application number 2021/24893 when applying.

**Application deadline: 30.05.2021**

**NTNU - knowledge for a better world**

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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 Mathematical Sciences**

We are Norway's largest university environment in mathematical sciences. The Department has a particular responsibility for all basis education in mathematical sciences for engineering and natural science students at NTNU. We focus on long-term basic research and applied research at a high international level. Our aim is to meet the society’s needs for mathematical and statistical expertise in business and public administration as well as in the research and education sector. The **Department of Mathematical Sciences** is one of seven departments in the **Faculty of Information Technology and Electrical Engineering**.

Jobbnorge-ID: 205948, Søknadsfrist: 30. mai 2021