

Jobbnorge ID: 211462
Deadline: 10/5/2021
Website: <http://www.nmbu.no>
Scope: Fulltime
Duration: Fixed Term

Are you interested in how remote sensing technologies can tell us more about forests?

PhD scholarship within forest inventory and remote sensing

About the position

Faculty of Environmental Sciences and Natural Resource Management (MINA) at Norwegian University of Life Sciences (NMBU), has a vacant 3-year PhD position related to the improved estimation of forest information using remotely sensed data.

Forest information is fundamental for forest management decisions. Estimates of forest attributes such as timber volume, timber quality, tree species, carbon storage, and biodiversity are essential. Nowadays, field-based surveys combined with remotely sensed data are widely used to estimate such forest attributes at the stand and property levels. Especially the 3D remotely sensed data from airborne laser scanning is an important data source. Increasing the accuracy of the forest attribute estimates and quantifying their uncertainties are essential to improve management decisions. The PhD student will be central in developing and evaluating methods to quantify and describe the uncertainty of different forest attributes at stand and property levels. Furthermore, evaluating different field survey designs to improve the accuracy and precision of stand-level estimates using model-based estimation and sampling simulations will also be an essential part of the PhD project.

The PhD student will be included in the SkogRover research group (www.forestinventory.no) and will thus be a member of a team with four senior researchers, two postdocs and eight PhD students. The position is connected to the recently established "SmartForest" Centre of Research-based Innovation, led by Norwegian Institute of Bioeconomy Research. NMBU is the main partner from the university sector.

The applicant is made aware that an application for a PhD position at NMBU is at the same time an application for admission to a PhD programme at the institution. The documentation that is necessary to ensure that the admission requirements are met must be uploaded as an attachment.

Main tasks

- Estimation of uncertainty of forest information at relevant spatial levels (stand and property).
- Evaluation of uncertainty components of stand level forest attributes estimated using airborne laser scanning data.
- Development of methods for efficient distribution of field inventory plots using remotely sensed data.
- Development of a system for simultaneously distributing field inventory plots and optimizing inventory costs and accuracy.

The successful candidate is expected to enter a plan for the progress of the work towards a PhD degree during the first months of the appointment, with a view to completing a doctorate within the PhD scholarship period.

Competence

In order to be appointed, the candidate must meet the requirements for admission to one of the PhD programs at NMBU. A master's degree of at least 120 credits (ECTS) is required, which is based on a bachelor's degree of at least 180 credits (ECTS), or integrated master's degree of at least 300 credits (ECTS). The applicant must have a documented strong academic background from previous studies, and be able to document good English skills, both written and oral. For more detailed information on admission criteria, see the [PhD Regulations](#) and the ["supplementary provisions for the PhD programmes"](#).

The applicant must document expertise and interest in the research subject.

Required Academic qualifications

- Master's degree in a relevant scientific field, such as; forest sciences, statistics, geomatics, natural resource management or related disciplines.

The following experiences and skills will be emphasized:

- Competence from use of remotely sensed data in forest applications.
- Competence in statistical methods, programming, and high performance computing.

- Competence with sampling statistics, in particular use of model-assisted and model-based estimators.
- Competence from use of airborne laser scanning data in forest applications.
- Competence with sampling simulations for local estimation problems.

You need to:

- be strongly motivated and committed
- be creative and have the ability to work result-oriented, accurate and structured
- have analytical ability
- have the ability to work independently as well as in a team

Remuneration and further information

The position is placed in government pay scale position code 1017 PhD Fellow, pay scale 20 (salary step. 54-62). PhD Fellows are normally placed in pay grade 54 (NOK 491.200, -) on the Norwegian Government salary scale upon employment and follow ordinary meriting regulations.

Employment is conducted according to national guidelines for University and Technical College PhD scholars.

For further information, please contact research professor Hans Ole Ørka (hans.ole.orka@nmbu.no) or professor Terje Gobakken (terje.gobakken@nmbu.no)

[Information for PhD applicants](#) and general [information to applicants](#)

Application

To apply online for this vacancy, please click on the 'Apply for this job' button above. This will route you to the University's Web Recruitment System, where you will need to register an account (if you have not already) and log in before completing the online application form.

In the application, the candidate must confirm that information and documentation (in the form of attachments) submitted via the job application can also be used by NMBU in a possible admission process.

Application deadline: 05.10.2021

Applicants invited for an interview are expected to present original diplomas and certificates.

The following documents must be attached to the application:

- Motivation letter
- Complete CV
- Certified copies of academic diplomas and certificates. Applicants from universities outside Norway are kindly requested to send a diploma supplement, or a similar document, which describes in detail the study program and grading system
- Diplomas/certificates (i.e. Diploma, transcript. Diploma supplement for both bachelor and master). (Diplomas, transcripts and diploma supplements that are not in Norwegian or English must be uploaded in the original language. An English translation of these documents must also be attached.)
- Documentation of proficiency in written and oral English
- Names and contact details for two references
- Any documentation of professional knowledge (for example, list of scientific works) Any documentation of professional knowledge (for example, list of scientific works)

About The Faculty of Environmental Sciences and Natural Resource Management

The Faculty of Environmental Sciences and Natural Resource Management (MINA) works with nature and the environment, sustainable use of natural resources, biological and geological processes.

MINA's employees undertake teaching, research and dissemination within the fields of geology, hydrology and limnology, soil science, environmental chemistry, forestry, ecology, natural resource management, renewable energy, and nature-based tourism.

Our vision is to be a key actor in knowledge production and dissemination, and our goal is to deliver research of high, international quality, and varied and excellent teaching. The faculty's employees are significant participants within their respective fields of expertise, both nationally and internationally. The faculty is dominated by a vital research culture and high levels of scientific production.

The faculty has about 200 employees, 90 PhD students and 650 students.

[Read more about MINA here.](#)

The Norwegian University of Life Sciences (NMBU)

NMBU has a particular responsibility for research and education that secures the basis for the life of future generations. Sustainability is rooted in everything we do and we deliver knowledge for life. NMBU has 1,800 employees of which about 250 phd scholarships and 6,000 students. The university is divided into seven faculties.

NMBU believes that a good working environment is characterised by diversity.

We encourage qualified candidates to apply regardless of gender, functional ability, cultural background or whether you have been outside the labour market for a period. If necessary, workplace adaptations will be made for persons with disabilities. More information about NMBU is

available at www.nmbu.no.

Additional information

Place of service:

Universitetstunet 3 1430 Ås (Ås Municipality)