

Deliberation:

About the position:

The Faculty of Environmental Sciences and Natural Resource Management (MINA) at the Norwegian University of Life Sciences (NMBU) invites applications for a full-time, permanent position as Associate Professor/professor in soil physics with emphasis on sustainable soil management.

The successful candidate will join sixteen colleagues in the Soil and Water Section covering a broad field of earth sciences as soil science, hydrology, limnology, sustainable water and sanitation, and geology. The section has an active soil science group with research focusing on biogeochemical and physical processes in soils in relation to agriculture and environment. We wish to complement and strengthen our soil science group with a colleague with a distinct research profile in soil physics and soil structure with focus on agricultural systems. Our research covers agricultural systems globally, but for this position we are particularly looking for a candidate that has experience and wishes to pursue research on Nordic/Norwegian agriculture systems.

NMBU has an experimental farm where the soil science group has long-term field experiments within soil tillage, soil compaction and erosion. Long-term field experiments are important both for teaching and for research projects including studies of effects of climate change to generate new knowledge on soil (physical) quality and its impact on plant growth and greenhouse gas emissions. As only few long-term trials are still running on campus continuation and further development of these are crucial to maintain. We expect that the successful candidate to take a keen interest in these field experiments and further develop them with appropriate instrumentation in collaboration with other colleagues to address future challenges of Norwegian agriculture. The MINA faculty also has a soil physics laboratory with basic equipment for teaching and research purpose, we wish upgrade and further develop this laboratory. Many of the soil science groups projects are concerned with soil organic matter, either from a climate change, organic waste or water management point of view, and therefore are in constant demand of information on soil structure and aggregation. We see that there are many interesting research questions we would like to pursue in the borderline between soil physics, soil biology and biogeochemistry- we are many colleagues that would welcome a colleague with experience in this field. We wish to create robust and future-oriented research groups that together contribute to our strategic research areas; sustaining water and soil resources, land use and climate change, and other related ecosystem services. Our ambition is to be nationally leading and internationally highly recognized within education and research in these areas.

We offer both undergraduate and graduate courses in soil science, serving many different study programs. The successful applicant will be responsible for lecturing for specialists in soil physics as well as for agricultural generalists and landscape architects and engineers in cooperation with other colleagues. Presently, the lectures focus on soil structure, aggregation, water potential, transport of water in saturated and unsaturated soil, infiltration, evaporation, air exchange, diffusion and soil mechanics. Teaching also includes applied aspects of soil physics, dealing with soil tillage, soil compaction and erosion. We expect the successful candidate to contribute to ongoing courses and take

responsibility for further developing the curriculum and courses in soil physics (theoretical and applied).

For this position we are also seeking a person with interest for and talent for outreach and popular dissemination – farmers and environmentalist need to work together, and the scientific community has a responsibility to facilitate such cooperation to ensure that we achieve important sustainability goals. For this position we give outreach and good contact with stakeholder's high priority and consider this essential for obtaining national funding and good implementation of research results for best management practise. Lifelong learning is one of our university's priority areas.

Main tasks:

We expect the successful candidate to be equally engage in both teaching and research activities. Both teaching and research should be linked to that of the Soil and Water Section and within the strategic priorities of the MINA faculty and NMBU.

<https://www.nmbu.no/en/about-nmbu/strategy>

Based on the required expertise and experience outlined in the position description above, the person to be employed will have the following main duties:

- Initiate and undertake research within the strategic priorities of the MINA faculty
- Maintain ongoing and develop new field experiments at the university campus
- Maintain and develop the soil physics laboratory
- Develop and contribute to courses within the strategic priorities of the MINA faculty
- Supervise BSc, MSc and PhD students
- Participate in the development of BSc and MSc courses and education programmes
- Participate in administrative duties
- Provide services to the University, profession and community.

The administrative language at NMBU is Norwegian and we expect the successful candidate to be able to teach and contribute to/follow discussions with students and colleagues in Norwegian within 2 years.

Qualification:

1. Required:

- a. PhD or equivalent in soil science, agronomy or environmental science with soil physics as specialty
- b. A clear vision for his/her future research and teaching at NMBU
- c. Experience with research on agriculture in temperate and boreal climate
- d. High quality and relevant scientific publications
- e. Experience with field trials and soil management
- f. Experience with outreach /extension services and dissemination

2. Desired:

- a. Experience:
 - i. Ability to initiate, achieve funding and deliver research

- ii. International collaboration
 - iii. Experience with teaching and supervision at university level
 - iv. Experience with soil physics laboratory management
- b. Knowledge:
- i. Scandinavian language
 - ii. Norwegian agriculture
 - iii. Recent development in technologies for soil management and soil physical assessment
- c. Personal qualities:
- i. Thrive in a multidisciplinary and international campus environment
 - ii. Have high working capacity and ability to work in teams
 - iii. Have good communication skills, ability to establish new contacts and develop networks
 - iv. Have ability to create a welcoming and productive working environment for colleagues and students

For candidates shortlisted for this position a trial lecture will be required. Candidates without formal pedagogical competence are obliged to complete a course in university pedagogy within two years. If the candidate does not have a command of the Norwegian language, he or she must be willing to learn and teach in Norwegian within two years after appointment.