

## Postdoctoral position in Farming Systems Modelling

The Swedish University of Agricultural Sciences (SLU) seeks a postdoctoral fellow for a two-year project combining agro-ecological field research with crop modelling to address complex issues of production, resource use, and sustainable intensification of Northern European farming systems. Spectral technologies including airborne (drone) and satellite techniques will be used for the classification and quantification of spatial distributions of crops, soils, nutrients and water. Crop models will be evaluated using existing data and field research, and then used to generate hypotheses about, and predict plant responses to changing management and environmental conditions. Broader farming systems analyses will evaluate the trade-offs between economic, environmental and social consequences of agricultural systems, with the aim of developing sustainable agronomic practices and cropping systems for feeding ruminant livestock. The position will be based at the Department of Agricultural Research for Northern Sweden in Umeå. Part of the research will be done at the department's Field Research Station in Röbbäcksdalen, Umeå. The Station is a part of SITES (Swedish Infrastructure for Ecosystem Science), a nation-wide state of the art network of experimental field stations, offering possibilities for experimentation and data acquisition under various climates and agronomic conditions. The postdoc will be part of the Faculty of Natural Resources and Agricultural Sciences, but also work with researchers from the Faculty of Veterinary Medicine and Animal Science.

**Research:** The overall aim with our research is to create knowledge that promotes the competitiveness of agriculture in northern Sweden and ensures the supply of locally produced food items. The research is focused on cropping, conservation, feeding and evaluation of forages for milk and meat production. Important aspects of the scientific work are the effects of the chemical and physical properties of the forages on feed intake and animal performance as well as the links to product (food) quality. Field studies are conducted in all over Sweden. Hence, influences of different environmental conditions on the crop production in this region can be emphasised.

**Teaching:** We teach crop science and animal science in undergraduate education. Post graduate education is offered in crop science, soil science and animal science.

**Duties:** The position will focus on developing, evaluating, and applying modelling tools for the assessment and design of agricultural systems. This will include, e.g. field agro-ecological research, using spectral techniques for data collection, and modelling at multiple scales (e.g. tissue, plant, crop, field, farm, and region). The postdoc is expected to prepare manuscripts for submission to peer-reviewed journals. The successful applicant will have the opportunity to develop their own research ideas and will contribute to novel research proposals for submission to external funding providers.

**Qualifications:** Applicants should hold a PhD in crop science, agricultural science, or a related field. Preference will be given to candidates who have been awarded the degree no more than three years before the application deadline. Documented experience in modelling and agronomic field research are expected, and specific experience in farming systems modelling is desirable. The applicant should have a demonstrated ability to independently initiate, conduct, and complete research projects and to generate and publish the findings in international peer-reviewed journals. The candidate must have strong written and oral communication skills in English, as evidenced by peer-reviewed publications and presentations at professional meetings. A working knowledge of GIS, data handling, and statistics are desirable.

**Place of work:** Umeå

**Form of employment:** Temporary employment as postdoctor for 2 years

**Extent:** 100

**Starting date:** By agreement

**Application:** We welcome your application marked with **Ref no. SLU ua 2640/2016**.

Please submit your application to the Registrar of SLU, P.O. Box 7070, SE-750 07 Uppsala, Sweden or [registrator@slu.se](mailto:registrator@slu.se) no later than **August 22, 2016**.

SLU is an equal opportunity employer.

*The Swedish University of Agricultural Sciences (SLU) develops the understanding and sustainable use and management of biological natural resources. The university ranks well internationally within its subject areas. SLU is a research-intensive university that also offers unique degree programmes in for example rural development and natural resource management, environmental economics, animal science and landscape architecture.*

*SLU has just over 3,000 employees, 5,000 students and a turnover of SEK 3 billion. The university has invested heavily in a modern, attractive environment on its campuses in Alnarp, Umeå and Uppsala.*

[www.slu.se](http://www.slu.se)

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