Postdoc – modelling plant-environment interactions in agrivoltaics
Swedish University of Agricultural Sciences (SLU)

Job Title	Postdoc – modelling plant-environment interactions in agrivoltaics
Department	Ecology https://www.slu.se/en/departments/ecology/
Institution	Swedish University of Agricultural Sciences (SLU) Uppsala, , Sweden
Date Posted	Apr. 7, 2025
Application Deadline	May 6, 2025
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Agricultural
Apply Online Here	https://www.slu.se/om-slu/jobba-pa-slu/lediga-tjanster/?rmpage=job&rmjob=12581&rmlang=SE
Apply By Email	

Job Description

We are searching for a motivated postdoc interested in investigating how soil-plant-atmosphere interactions are affected by agrivoltaics, i.e., the combination of crop production and solar panels. The postdoc will develop mathematical models based on biophysical processes, in combination with available data. The postdoc will also contribute to a literature synthesis on ecosystem services in agrivoltaic systems.

About the position

Agrivoltaics, if carefully designed, have the potential to provide photovoltaic energy as well as other ecosystem services, including food production and biodiversity support. At the same time, solar panels

Postdoc – modelling plant-environment interactions in agrivoltaics
Swedish University of Agricultural Sciences (SLU)

alter the crop growing conditions, so that crops in agrivoltaics are affected by climatic conditions differently compared with those in open fields.

The postdoc will explore advantages and disadvantages of a range of agrivoltaic designs on crop activity, crop vulnerability to detrimental climatic conditions, and in general ecosystem services. The postdoc will develop and use mechanistic models describing the biophysical processes in the field in the presence of solar panels. A literature synthesis will be used to broadly assess ecosystem services rendered by agrivoltaics. The postdoc will enter a strong research group led by Prof Giulia Vico (http://www.slu.se/en/ew-cv/giulia-vico/), in close collaboration with Assoc. Prof Erik Öckinger (https://www.slu.se/en/ew-cv/erik-ockinger/). The postdoc will be associated with the Solar Electricity Research Center SOLVE (https://www.uu.se/en/research/solve), involving researchers and stakeholders working with different aspects of solar energy.

Your profile

We are looking for a highly motivated candidate who is actively pursuing an academic career in earth or environmental sciences, ecology, agronomy, engineering, and related subjects. The position requires a PhD in quantitative disciplines, such as earth and earth or environmental sciences, atmospheric sciences, ecology, applied mathematics or physics, or related fields.

Documented experience and interest in developing models coupling the dynamics of soil, plants, and the atmospheric boundary layer as well as strong quantitative and programming skills (in MatLab, R, Python, C, Mathematica, Fortran, or other programming languages for data analysis and model implementation) are required. The candidate is expected to be capable and willing to independently initiate, conduct, and complete research projects independently and in a team, as well as to generate and publish the findings in international peer-reviewed journals. Documented skills in scientific writing and excellent communication skills in English, both written and oral, are required.

Selection is made based on the written application and interviews. The application, written in English, must contain

- a statement of your scientific interests and motivation for applying for this position, specifying your current research interests, expertise, and other activities of relevance for the advertised positions (max 5000 characters, including spaces)
- *Curriculum Vitae* including complete publication list, separating peer-reviewed from other publications
- contact information of two professional references
- copies of previous university degrees and transcripts of academic records

Postdoc – modelling plant-environment interactions in agrivoltaics
Swedish University of Agricultural Sciences (SLU)

While particular emphasis is placed on your written motivation describing your research interests and indicating interest and expertise in area of research described above, we consider also personal characteristics, including collaborative skills.

About us

The position is based at the Dept. of Ecology, part of the Ecology Center of the Swedish University of Agricultural Sciences (SLU) in Uppsala, Sweden. The postdoc will join a stimulating and dynamic research environment and an extensive national and international network focusing on sustainable agriculture. We conduct research for sustainable agriculture, forest production and biological conservation. Our basic research on populations, communities and ecosystems forms the foundation for understanding influences of land use and climate on animals, plants and soil nutrient status and greenhouse gas balance. Solutions are sought that produce enough food sustainably, mitigate climate change, preserve threatened species, support biological diversity and a variety of ecosystem services. Active dialogue, outreach and frequent contacts with stakeholders are key activities. We build on extensive national and international research collaborations to generate cutting-edge research and outreach to further ecology as science and promote sustainable agriculture.

More about the Department: https://www.slu.se/en/departments/ecology/

Read more about our benefits and working at SLU by visiting: https://www.slu.se/en/about-slu/work-at-slu/

Location:

Uppsala, Sweden.

Form of employment:

Temporary employment 24 months, with the possibility of extension.

Scope:

100%.

Start date:

Postdoc – modelling plant-environment interactions in agrivoltaics
Swedish University of Agricultural Sciences (SLU)

As agreed.

Application:

Please submit your application before deadline 06 May 2025. You can submit your application by clicking the button at the far end of the job vacancy webpage: https://www.slu.se/om-slu/jobba-pa-slu/lediga-tjanster/?rmpage=job&rmjob=12581&rmlang=SE

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact Giulia Vico
Ecology
Swedish University of Agricultural Sciences (SLU)
Uppsala
Sweden

Contact E-mail giulia.vico@slu.se