



Post-doctoral research position: developer of socio-economic models and decision support tools with primary focus on agent-based modelling

Vacancy number: EV/2019/018/L&M

Your function

As a post-doctoral researcher, you will work in a research team within the Social Sciences Unit of ILVO focussing on the development and implementation of (socio-)economic models and decision support tools. You will contribute to the development of this socio-economic modelling research group in combination with working on concrete projects.

Recently, the group developed - in a participatory way - a set of models and decision support tools. At this point, we want develop and implement an approach to increase the interaction with the relevant actors and thus to lift the use of this models and tools for the purpose of our research. As, such, from the experiences during this post doc research, we expect that you will contribute to the conceptualization of this approach and to profiling our work to stakeholders.

During the first and half year, your primary focus will be the development of an agent-based model - including both the development of the conceptual model as well as the actual coding - and a web-based decision support tool. The model and tool are developed in the context of the European Horizon 2020 research project VOLATILE, aiming at contributing to the circular economy by the valorisation of organic waste streams, e.g. food waste, into high value products, e.g. omega-3 fatty acids. While other project partners focus on the technical development of a Volatile Fatty Acid (VFA) platform that is able to extract VFA from an anaerobic digestion process, our task is to assess the potential of such a VFA platform and to acquire insights in the most important drivers and barriers to actually implement such a platform. Therefore, we develop an agent-based model. The model results will be interpreted into best practices for the industry and translated into policy recommendations. The research requires a holistic vision, because it deals with supply chain development and acceptance of new and innovative products and technologies by relevant stakeholders. Therefore, a mixed-method approach is applied, including both qualitative and quantitative methods: participation in focus and discussion groups and the development of agent-based and social simulation models. Being part of a European project, intensive collaboration with diverse international stakeholders from different disciplines is required. Within the Social Sciences Unit of ILVO, you will work on the project in close collaboration with another post-doctoral researcher and a PhD student, who you will also guide.

For the years after, also other research projects with a strong modelling component have been granted. One research project will focus on the potential of local soy production for animal feed. By using a mixed method approach, including focus groups and agent-based modelling, the goal

of this project is to develop a roadmap for the future use of local soy in animal feed. Another project will focus on developing technical and techno-economic insights for local quinoa production.

In order to achieve these objectives, you will work in a research team within the Social Sciences Unit of ILVO and in close cooperation with project partners and external stakeholders. You will contribute to writing project proposals and executing approved projects. You will publish your results in academic journals, take part in international conferences and further expand your research network.

Your profile

- ✓ You hold a PhD degree in Bioscience Engineering, Agricultural Economics, Natural Resources Economics, Computer Sciences, or another relevant field.
- ✓ You have a starting track record of scientific journal publications.
- ✓ You are interested to perform innovative empirical scientific research, using diverse research methods within a mixed-method framework.
- ✓ You have a keen interest in the circular (bio)economy.
- ✓ You have a keen interest in agricultural economics.
- ✓ Experience in developing agent-based models is an asset.
- ✓ You are able to develop your code in R or are able to pick up the coding language quickly.
- ✓ You are flexible to travel abroad for field research, meetings, workshops or conferences.
- ✓ You have good social skills, for example to lead group discussions.
- ✓ You are a team player, but also able to work independently.
- ✓ You have good writing skills, and are fluent in English. You have understanding of Dutch, or are willing to learn the language within a short time frame.

Our offer

- ✓ We offer a post-doctoral research position for 4 years, under the condition of a positive evaluation after 6 months, and with the possibility of extension.
- ✓ We offer a competitive salary (A166), equivalent to a gross monthly salary of about 4100 to 4500 € depending on experience.
- ✓ We offer additional benefits in terms of health insurance, covering of transportation costs, etc.
- ✓ You will join the Social Sciences Unit of ILVO, a young, multidisciplinary research group with over 30 researchers. We conduct socially relevant scientific research within the context of sustainable agriculture and rural development.
- ✓ A varied, challenging and socially relevant job. You obtain a job with responsibility and this within a dynamic environment with attractive working conditions.

Starting date

As soon as possible, preferably before August 2019.

How to apply?

To apply please send a motivation letter, CV, scientific CV and a copy of your diploma by email to Dr. ir. Anouk Mertens (see below for contact info).

Deadline: **Friday, 14th of June 2019**

First selection will be based on the motivation letter and CV. Selected candidates will be invited for a job interview in the second half of June 2019. Interviews by Skype are also possible.

Contact info:

About the position: Dr. ir. Anouk Mertens, Agricultural and Farm Management,
Social Sciences Unit, Burg. Van Gansberghelaan 115, bus 2, 9820 Merelbeke
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About the working conditions and salary: Caroline Buyst, HR-specialist-09 272 25 12-
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