

Full-time academic vacancy in the field of Socio-Technical Study of and Support to the Agro-Ecological Transition of Regional Agro-Ecosystems

Start date: 1 September 2021

Description of the workload:

A full-time, indivisible position in the field of **Socio-Technical Studies and Support to the Agro-Ecological Transition of Regional Agro-Ecosystems**, within the Teaching Department of the Faculty of Gembloux Agro-Bio Tech. This post includes teaching, research and services to the Community.

A. Gembloux Agro-Bio Tech

Gembloux Agro-Bio Tech is the Faculty of the University of Liège in charge of teaching and research on the management of cultivated and natural productive ecosystems and the processing of their products.

Since its creation more than 150 years ago, Gembloux Agro-Bio Tech has been involved in training and research in the use of living resources and their potential for food and non-food needs, for the well-being and health of human populations. Since the reality of anthropocentrism has been recognised, environmental and social sustainability issues have taken precedence over yield maximisation on plot scale to develop more integrated approaches to biomass production aimed at encouraging an approach to global profitability and multi-performance of agricultural systems at the farm and rural scales.

From this perspective, the Faculty promotes and develops a series of innovative agro-ecological research projects maximising agro-biodiversity functionality (crop combinations, soil cover, non-dig cultivation, agroforestry, biological control of bio-aggressors and weeds, role of wildflower strips and natural interfaces, multi-performance of agro-ecological farms, etc.) within the experimental farm, in synergy with other research centres and in partnership with innovative farmers.

Gembloux Agro-Bio Tech wishes to continue to amplify these agroecological approaches to transition by developing structural projects for interdisciplinary teams. The rationale of constructing this transition is based on a systemic and integrated assessment of the operation of agro-ecosystems on the basis of a wide range of indicators of ecosystem services and the well-being of stakeholders and users of agricultural landscapes.

The perspective taken by the Faculty is to develop research activities based both on scientific questioning and on socio-economic issues formulated by society. This research must advance knowledge, lead to progress for society and human development, support the development of public policies and/or contribute to the development of socio-economic activity. Agroecology is one of the responses to the challenges facing the food systems of the future.

B. ULiège's research into issues around agroecological production

Until recently, the rationale of increasing yields and maximising the optimisation of production costs was the main goal of research in food, biomass and energy production. The production systems thus perfectly met the objectives assigned to them at the end of the Second World War to protect Europeans from food shortages by generating surpluses to create added value.

However, these very intensive and efficient modes of production, increasingly disconnected from the social and environmental constraints of socio-ecosystems, generate many negative externalities on ecosystems (soil, water and air pollution, erosion, flooding, impacts on climate change, biodiversity, animal welfare, human health, etc.) and on social systems (disconnect between producers and

consumers, race to the lowest price, etc.). The markets do not take these hidden costs into account, raising ethical questions within society.

Over the past twenty years or so, scientific research, which was initially oriented towards limiting negative impacts without fundamentally changing the logic of production, has now taken other directions that require major scientific support, both in the life sciences and in the social sciences. Examples include spatial and temporal diversification, crops, the use of plant or animal varieties that are more resistant to different crises rather than the most productive, the substitution of external inputs by mobilising biodiversity and its regulatory effects (predators, green infrastructure, etc.), the expansion or limitation of agricultural practices such as ploughing or the use of pesticides, the use of smaller plots to maximise the services of the landscape structure. These new directions aim to make farms less specialised but more autonomous and resilient in their production, to put the farmer back at the heart of producing services for society and to develop new value chains that maximise the multi-performance and resilience of the different biological and human systems involved.

These new directions for production systems respond to the pressing expectations of society that were recently specified in the European “Biodiversity 2030” and “Farm to Fork” strategies developed as part of the Green Deal launched by the European Commission. The entire system of production and evaluation of its performance must be restructured in the coming years, with the major challenge of adapting and diversifying. There is therefore a significant need to improve knowledge to increase our understanding of the dynamic and multi-scale interactions between the components of agrobiological systems to optimise their contribution to productive processes. This inevitably requires the adoption of an inter- and transdisciplinary approach enabling us to intelligently combine different fields of knowledge.

Gembloux Agro-Bio Tech and the Faculty of Sciences at ULiège wish to be important actors in supporting this major change. One example is the start of a long-term experiment on future food systems within the *AgricultureIsLife* CARE.

It is from this perspective of ULiège’s strategic position in terms of research on sustainable food systems that a lecturer in Agroecology is being recruited, paying specific attention to the interdisciplinary and interfaculty basis of this position.

C. Organisation of the academic year in ULiège

The Faculty of Gembloux Agro-Bio Tech, in collaboration with the Department of Environmental Science and Management (DSGE, Faculty of Science) located on the Arlon campus, began organising the international inter-university master's degree in agroecology in 2016. This is a Master’s that is jointly awarded with the Université Libre de Bruxelles and the Université Paris-Saclay AgroParisTech (France). The aim of this specific course is to enable students to analyse complex and dynamic agro-ecosystems in a qualitative and quantitative way so that they can describe agricultural and food socio-ecosystems holistically using interdisciplinary approaches.

This evolution in teaching responds to strong societal expectations regarding the need for a detailed and cross-cutting understanding of current issues. In the agro-food- domain, this involves students completing their curriculum with systemic analyses of production chains, including the study of their diversification and empowerment; with courses that develop techniques to optimise functional agro-biodiversity and with multidisciplinary approaches implemented on a regional level.

The success of the Master’s programme (i.e., the number of students enrolled quadrupled between 2016 and 2019) testifies to the societal enthusiasm for the rapidly growing theme of agroecology. This is therefore a strategic area for our University, which offers the only course that is clearly labelled “agroecology” by the FWB (awarded jointly with the ULB). The attractiveness of this course has also led a significant number of students from abroad to register (around 55% of the students in this course).

The recruitment of a dedicated lecturer in the field of agroecology is therefore crucial for the development of this training. This would substantially increase the content of specific courses. Even

more so as, in line with the philosophy behind it, the teachers of the Master's in Agroecology organise most of their classes around active teaching methods (inverted classes, group work with personalised support and feedback from all students, field visits, etc.). These formats, which are difficult to put into practice in courses with attendance and with mixed cohorts, are very popular with students and constitute one of the strengths of the courses in this Master's programme.

The Master's in Agroecology has now reached a pivotal moment in its evolution. Work has thus been carried out to ensure consistency in order to ensure it can be restructured by 2021. This will include the design of cross-cutting courses between the different teams. The recruitment of a lecturer in Agroecology will facilitate this collective exercise of reflection aimed at deepening and consolidating the common identity of this Master's programme. In view of its interdisciplinary and international nature, the leadership of all the teaching staff involved in the Master's programme is all the more crucial for the future of this innovative course, which is in line with the aspirations of the general public.

Teaching activities:

Ultimately, the teaching load will have to be at least 15 credits. This aims to support and develop inter- and multidisciplinary courses related to the field of agroecology, particularly those provided within the inter-university Master's degree in agroecology. The main focus will be on the regional dimension, production chains of a wide variety of services, and supporting the transition processes of agro-ecosystems.

More specifically, the candidate will develop new courses and seminars and interact with the Master's teaching staff to incorporate these aspects into the cross-cutting analysis of agricultural systems with a view to transitioning towards more sustainable local and global agro-ecological production systems.

This will involve developing the sociotechnical aspect of these analyses, including the multifaceted aspects of performance as well as monitoring, in order to help shed light on and provide appropriate support for the transition processes. These interventions will highlight the emerging properties of the interactions between the different components of agroecosystems according to their spatial and temporal management. This systemic, territorial and transformative approach will drive forward the integration of the knowledge and skills developed in the thematic courses by the teaching staff of the Master's in Agroecology.

In the context of the restructuring of the programme, the post-holder will therefore be responsible for a significant part of the cross-cutting courses of the Master's programme. This involves not only the existing cross-cutting courses, the content of which could be redirected, but also those that will have to be created to meet students' expectations and the need to consolidate the shared identity of the Master's programme.

This work will be carried out in close consultation with the Department of Environmental Sciences and Management (Faculty of Science - Arlon Campus). More specifically, this post applies to the following courses:

- HULG9288-1: Research project comprising a final thesis (currently a three-credit, jointly-taught course, which will increase to five credits to incorporate aspects of interdisciplinary and multidisciplinary research methodology);
- XXXX: Socio-technical approaches to agroecology (five credits - course focused on "learning through field work");
- XXXX: Accompanying the transition to agro-ecology (five credits - course focused on the paradigm shift in counselling).

The post-holder will also take an active part in the implementation of the inter-university (ULiège - ULB) and inter-site (Gembloux - Arlon) courses currently under consideration:

- XXXX: Agroecological protection of agricultural production systems (two credits in collaboration with relevant teaching staff at ULB and ULiège);
- HULG0493-1: Agricultural economics and rural development (five credits in collaboration with relevant teaching staff at ULB and ULiège).

Finally, due to the cross-cutting nature of the socio-technical component of agroecology, the candidate is likely to be involved, in collaboration with the teachers concerned, in Gembloux Agro-Bio Tech courses not exclusively given within the Master's in Agroecology. These include the following courses:

- ANIM0024-1: Livestock systems for agroecology (2 credits)
- VEGE0036-1: Tropical Agroecology (6 credits)
- ENVT0040-A-B: Ecological Transition and Agroecological Transition (7 credits)

Research Activities:

The development of new and more sustainable approaches to agri-food production is a crucial challenge for the 21st century. Although previous, relatively standardised and input-dependent intensive agro-food systems were able to meet high demand in terms of quantity, the evolution of societal expectations, costs and consequences related to the use of fossil fuels and environmental constraints, of the climate and the stability of production ecosystems requires the identification and design of innovative agri-food production systems as well as methods to support the transition towards these regionalised systems, in a context of both redefining food governance and contextualising and consolidating the production of knowledge.

In collaboration with other researchers, the post-holder will develop their research activities to act on the scale of agro-food systems and support the agro-ecological transition, particularly in the framework of the *AgricultureIsLife* CARE.

Working in collaboration with other researchers, the post-holder will incorporate into their research activities the development of indicators that will enhance the integrated comparative monitoring and evaluation of conventional systems, systems in transition or varying degrees of agroecological systems, focusing on the regional scale and food systems. Indeed, managing living things to make the most of them rather than obliterating them to avoid potential problems involves developing new production - transformation - consumption techniques, with very precise monitoring to anticipate the actions to be taken.

More specifically, the post-holder will propose a personal interdisciplinary research project allowing the deployment of their expertise in this hybrid field according to the issues explained above. In addition, the proposed project will have to adopt a strategy of collaboration, or even joint creation, with academic and public and private sector stakeholders, in Wallonia and in neighbouring regions.

Services to the Community:

In consultation with their managers, the post-holder will be involved in services to the community of Liège University, particularly within the Gembloux Agro-Bio Tech Faculty, but will also work with the Arlon Campus for aspects related to the Master's degree in Agroecology, as well as in society in general.

Qualifications required:

- A university Master's degree and a research doctorate on the theme of agroecology (agronomy, ecology, geography, social sciences) with post-doctoral experience in the relevant field;

- Must demonstrate recognised scientific experience, both in the field and through international publications in the relevant field (a minimum of six months' scientific residence abroad is an advantage);
- Provide evidence of teaching experience in the relevant field;
- Present interdisciplinary research practice through publications, projects and scientific networks;
- Must be able to work in a team and with shared human and material resources pooled within the GxABT facility and to lead projects that are shared with the Arlon Campus (ULiège);
- Must be available for a variety of different roles relating to services to the community and public education.
- Must be fluent in English and French;
- Must be available for missions abroad;
- Must subscribe to the general quality objectives developed by the University and the faculty;
- Upon appointment, the post holder must sign an agreement on the ownership of any research results.

Selection procedure:

Each candidate's application will be examined by a faculty committee in charge of selecting the candidates to be interviewed, giving reasons for its decisions with regard to this vacancy announcement and the qualifications and merits of the candidates. The Faculty Committee shall interview the candidates, in particular concerning their curriculum vitae, their teaching, research and integration plans for the Institution and their command of English. The interview will include a "public lecture", the form of which will be set by the Faculty Committee. This interview will be held between the end of March and the beginning of May 2021.

Applications:

Applicants are requested to submit their applications electronically to the following email address: Postesacademiques@uliege.be copying in the Dean of GxABT - decanat.gembloux@uliege.be no later than **14 March 2021**.

Documents required:

- ✓ Applications should be accompanied by a complete [curriculum vitae](#);
- ✓ A report on past and current research activities and a research plan, including the envisaged integration within the University of Liège;
- ✓ A teaching dossier including a report on any prior teaching activities and a teaching plan;
- ✓ A copy of publications;
- ✓ A plan for developing services in the community.

Recruitment conditions:

The position shall be assigned either for a fixed term of four years, which may lead to the permanent appointment of the person concerned or on a permanent basis from the outset.

In the case of a four-year appointment, an evaluation of the person concerned will be carried out at the end of the third year.

- If the evaluation is negative, the post-holder will complete the four-year term but will not be able to extend it.

- If the assessment is positive, the person concerned shall be appointed on a permanent basis.

Our institutional policy is based on diversity and equal opportunities. We select candidates on the basis of their qualities whatever their age, sexual orientation, origin, beliefs, disability or nationality.

Further information:

For any further information, please contact Professor Frédéric Francis, Dean of the Faculty – doyen.gembloux@uliege.be

Salary:

Salary scales and how they are applied are available from the human resources department of the University: **Ms Ludivine Depas** – tel.: +32 4 366 52 04 – Ludivine.Depas@uliege.be