## Searching for a candidate for a post-doc

## Climate and landscape effects on Ecosystem services in agricultural areas along a European gradient

As part of the Biodiversa project (see summary below), the post-doc would be responsible for setting up experiments in the 5 locations of the projects (Brittany and Picardie in France, Belgium, Germany and Czech Republic) in co-construction with farmers, and in connection with the living-labs of the 5 locations. He/she would be responsible for the analysis of data on global biodiversity along the European climate gradient and on the rendering of ecosystem services (predation of seeds, insect pests of crops and pollination), this in connection with the climate and the landscape, at local (plot) and territorial scales in the 5 locations. The objective will be to isolate the role of hedges, flower strips and grassy strips near the plots on biodiversity. The composition of hedges and flower strips will be adapted to different socio-economic and pedo-climatic contexts to explore the large-scale implementation of these structures without impacting farmers' yields while increasing the areas favorable to biodiversity in farming systems.

**Summary of the Biodiversa Project:**

Title du projet: Living-lab approach to floral enrichment as a tool to conserve biodiversity and maximising ecosystem services in European agricultural landscapes

Acronyme: ConservES

Biodiversity loss in conventional farmland is one of the most pressing issues that humanity has to face. Using the approach of living labs that promote the involvement of citizens in science, this project strives to collectively develop field-to landscape management, mainly by floral enrichment, and bioindicators about the conservation state of farmland biodiversity. In this project, we will focus on cereal fields along a climatic gradient from the mild Atlantic climate (western France) to the more continental climate of central Europe (western Czech Republic). In line with the concept of ecological intensification, conservation of biodiversity aims at maximizing ecosystem services, here pest and weed controls and pollination, and to minimize disservices (presence of weeds and pests, loss of crop yields). The European climatic scale investigated will help to provide European-wide solutions for adaptation to land-use and climate changes. Along a climatic gradient, it is expected that the climatic context plays a major role on the potential of ecosystem services in each area. Therefore, to be able to effectively design plant floral enrichment that supports pest and weed control as well as pollination at the European scale, a study is needed on a large spatial and climatic gradient that would include a large range of taxa (wild flowers, slugs, aphids, parasitoids, hyperparasitoids, spiders, rove beetles, carabids, dung beetles, syrphids, butterflies, and bees) and landscape contexts. Simultaneously managing multiple ecosystem services requires understanding the mechanisms underlying ecosystem service interactions. The approach we propose to tackle this problem is multidisciplinary and based on the combination of the living lab concept, citizen-based means of field data collection called BioBlitz, and manipulated field experiments by floral enrichment that will reflect the results of the living lab, BioBlitz and scientific data. Among the outcomes of the project, living labs will be established in the four countries involved (France, Belgium, Germany and Czech Republic). To assess biodiversity, we will develop two kinds of multi-taxon-based integrated indicators. Finally, scenarios of adding diversity within, nearby and in the surroundings of the fields in order to optimize diversity in agro-ecosystems at the farm/landscape scales will be co-developed in living labs with farmers to engage them, in

protecting biodiversity and ecosystem health. Our approach will contribute to the knowledge needs specified in the Themes 1 and 2 of the Call document Biodiversa+. Our project will provide tools adapted to different climatic/and local to landscape practices as the chosen countries are contrasted in their climate, landscape history and agricultural practices. The consortium includes 5 academic partners, a company and 2 stakeholders, that will ensure the dissemination of the results to the farmers.

**Contact:** Joan van Baaren, University of Rennes, France, Coordinator of the Biodiversa project.
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Location of the job: University of Rennes, UMR-CNRS ECOBIO (https://ecobio.univ-rennes.fr/)

Salary: depending of experience.

Duration: 18-24 months

Deadline to apply: 30/03/2023

Conditions: Not having had a job in France in the last 18 months.

Beginning of the project: around October 2023

Competences: High level in statistics. Interest for global change.