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Butterfly

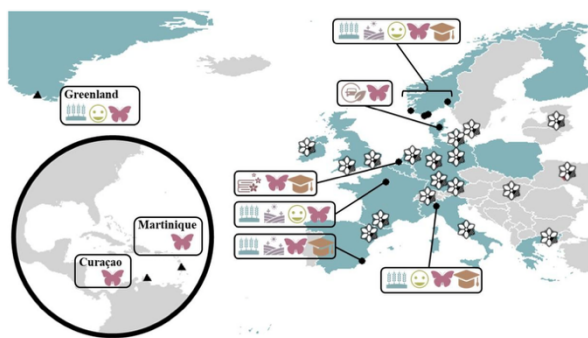
PhD offer: Economic evaluation of pollination services among European citizens

Context: Pollinating insects - bees, bumblebees, ants, butterflies and flies - all play a part in pollination, a key element in the reproduction of most wild and cultivated flora. These pollinators of various species benefit nearly 80% of Europe's wild plants. This is how these plants are fertilized and reproduce. The seeds and fruits resulting from fertilization provide food for many animals, including humans. These pollinating insects are essential to the agricultural and semi-natural habitats of the farming landscape.

For several years now, however, scientists have been observing their decline. The cause is human activity, which is destroying their habitats and reducing the number of flowers they can gather. Pollution and climate change are also contributing to changes in their living conditions, with some pollinators emerging earlier than others, forced to adapt because the flowers on which they depend are not present.

This decline in pollinators will have major consequences for society: lower agricultural production, loss of biodiversity, more fragile ecosystems. But this situation is not inevitable. Society can organize itself to better protect pollinators, by adapting agricultural practices, preserving their habitats, reducing pesticide use and mobilizing citizens, communities and businesses around their preservation. Political, economic and cultural choices can help reverse this trend and maintain the essential services that pollinators provide to our societies.

The project: This research is funded by the European project BUTTERFLY (Mainstreaming pollinator stewardship in view of cascading ecological, societal and economic impacts of pollinator decline; HORIZON-CL6-2024-BIODIV-01-3). This is an innovation action project worth over 7 million euros, funded by the European Commission for a period of 48 months. The project is coordinated by Jeroen Van Der Sluijs, Professor of Chemistry at the University of Bergen (Norway), and brings together 24 partners from 13 European countries, representing an international consortium of experts in ecological, economic and social sciences.



BUTTERFLY aims to better understand and halt the decline of pollinators in Europe and its outermost regions. It gathers data on the interactions between plants and pollinators, develops tools to help farmers, businesses, managers and citizens preserve these species, and assesses the impact of their decline on nature, the economy and human well-being. BUTTERFLY will also produce scenarios to anticipate the consequences of an uncontrolled decline by 2050.



PhD objective and methodological approach: The PhD student will pursue a dual objective: on the one hand, to assess European citizens' perception of pollinating insects, and on the other, to analyze their willingness to commit to their protection, or even restoration. To this end, he/she will mobilize economic evaluation methods, in particular **choice modelling** and **deliberative monetary evaluation**.

The study will focus on both adult citizens, the players in today's society, and young students, the future agents of change. The missions will be as follows:

1. **Carry out an economic evaluation in several European countries** to estimate citizens' willingness to pay for pollinator preservation;
2. **Conducting a deliberative monetary evaluation with young students in France, Greece and Ireland**, in particular BTS students, to understand their perception of pollinators and measure their level of commitment to their protection;
3. **Analyze possible developments in training courses**, with greater emphasis on the social dimensions of biodiversity, such as awareness-raising, individual commitment and collective action.

Progress of the thesis :

- Literature review on choice modelling, deliberative monetization, the pollination service and the economics of institutional change (transformation of rules, norms and ways of thinking).
- Creation of a questionnaire dedicated to European citizens based on the choice modelling method to estimate their willingness to pay for pollinator preservation.
- Organization of focus groups with BTS students in agricultural high schools in France. For this, the PhD student will use the deliberative monetary evaluation method. He/she will set up the animation roadmaps, accompany the facilitator and analyze the qualitative and quantitative results. The doctoral student will then coordinate this work in Greece and Ireland.
- Identify the economic, social and ecological levers and barriers to young people's commitment to pollinator preservation, and how teachers can change their practices to achieve this.
- Presentation of results at annual project meetings. The PhD student will also have the task of communicating these results at events outside the project, such as international conferences. He/she will also write scientific articles.

Supervision: Prof. Nicola Gallai, ecological economist specializing in pollination services. UMR ENSFEA - LEREPS, Castanet-Tolosan (<https://lereps.sciencespo-toulouse.fr>). Contact: Nicola.gallai@ensfea.fr

Dr. Lorraine Balaine, Agricultural Economics and Farm Surveys Department, Rural Economy & Development Programme, Teagasc, Mellows Campus, Athenry Co. Galway, H65 R718, Ireland. Contact: Lorraine.Balaine@teagasc.ie

Working conditions :

- **Employer and type of contract:** ENSFEA - 3-year fixed-term contract



- **Location and research team:** Toulouse - LEREPS laboratory (Manufacture des Tabacs, 21 allée de Brienne 31685 Toulouse Cedex 6).
- **Travel:** the PhD student will be based in Toulouse at the LEREPS premises (Manufacture des Tabacs, 21 allée de Brienne 31685 Toulouse Cedex 6). He/she will have to travel in Europe (in particular in France, Greece and Ireland) to organize and coordinate the focus groups and to attend the project's annual meetings.

Candidate profile: Master's degree in economics (with a minor or proven qualifications in agricultural, environmental or political sciences); Bachelor's degree in social sciences or agronomy; interest in and knowledge of pollination; experience in mixed methodologies; focus group facilitation and statistical analysis, appreciated. Candidates must speak French (minimum level B2) and have a good level of oral, written and reading English (minimum B2), as all communications with the BUTTERFLY consortium will be in English.

Application process :

- Interested candidates should send their CV + covering letter + M2 grades and dissertation + letter of recommendation to **Nicola Gallai** (nicola.gallai@ensfea.fr) and **Lorraine Balaine** (Lorraine.Balaine@teagasc.ie) **by August 15, 2025**.
- Shortlisted candidates will be invited for a Zoom oral interview in September 2025. The interview will be conducted in French and English.

To find out more :

Gallai N, Salles J-M, Settele J, Vaissière BE (2009) Economic valuation of the vulnerability of world agriculture confronted with pollinator decline. *Ecological Economics* 68:810-821. <https://doi.org/10.1016/j.ecolecon.2008.06.014>

Gallai N, Garibaldi LA, Li X, et al (2016) Chapter 4: Economic valuation of pollinator gains and losses. In: IPBES (2016): The assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, pollination and food production, S.G. Potts, V. L. Imperatriz-Fonseca, and H. T. Ngo. Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany, pp 205-273.

Del Corso JP, Ouldnane H, Gallai N, Uwingabire Z (2022) Combining monetary valuation with deliberative valuation of ecosystem services: which interest Case of insect pollination in the Comminges in South-West France. *IJARGE* 1:1. <https://doi.org/10.1504/IJARGE.2022.10052507>