

## UMR EPIA & UMR AGIR

### Example of description of a thesis offer

**PhD student position:** Co-design of future eco-citizen farming: application to mountain dairy farming in the Massif Central (France)

#### Organisation

Livestock farming must face the challenges of global change and societal expectations. In this context, it is important to mobilize methods that foster original and innovative ideas and that involve professionals in the sector as well as citizens in the research work.

The objective of the PhD project is to understand how the combination of innovative design and participatory science approaches can promote the adaptation of livestock farming to the identified challenges. The innovative design approaches seek to facilitate the generation and exploration of new solutions (by limiting the effects of fixation) in a context of a collective work. It relies on the interactions between disciplines and actors. Mainly developed to support innovative design and decision-making in the industrial sector, this theory has recently reached wider applications, particularly in health and agroecology.

The PhD will be applied to mountain dairy farming through a project that will support the co-design of an eco-citizen farming. It will involve farmers and citizens. Eco-citizen farming aims at the reduction of inputs, the increase of the quality of products, animal health and welfare and the link to the territory. The project will benefit from two systems that have been set up by a collective of researchers and livestock professionals: i) a system experiment (UE-Herbipôle, Marcenat), ii) a network of initiatives that currently gather ten partners. More specifically, the research questions are:

- 1) What are the interests and difficulties of combining a conceptual and participatory approach involving breeders and citizens?
- 2) How to support a collective of researchers, farmers and citizens in the design of an farming adapted to the challenges of global change? How to produce a shared vision, create a dynamic, be part of the long term?
- 3) How can the outputs of the co-design process be operationalized, respond to the identified challenges and be in the fronts of science?

The expected results are a characterization of what eco-citizen farming is, a structuration of an innovation community, the production of knowledge around the development of an innovative collective functioning at the interface researchers - farmers - citizens and the identification of conditions favorable to collective learning.

#### *A few references*

Berthet, E., Barnaud, C., Girard, N., **Labatut, J.**, Martin, G. 2016. How to foster agroecological innovations? A comparison of participatory design methods. *Journal of Environmental Planning and Management* 6, 59 (2), 280-301. DOI:10.1080/09640568.2015.1009627

**Duval JE**, C. Fourichon, A. Madouasse, K. Sjöström, U. Emanuelson, N. Bareille, 2016. A participatory approach to design monitoring indicators of production diseases in organic dairy farms. *Preventive Veterinary Medicine* 128: 12–22. doi:10.1016/j.prevetmed.2016.04.001

**Vourc'h G**, J. Brun, C. Ducrot, J.-F. Cosson, P. Le Masson and B. Weil. 2018. Using design theory to foster innovative cross-disciplinary research: Lessons learned from a research network focused on antimicrobial use and animal microbes' resistance to antimicrobials. *Veterinary and Animal Science*. 6: 12-20. <https://doi.org/10.1016/j.vas.2018.04.001>

### Context of the PhD

The PhD project is part of the COCCINELLE project (for *in French*: CO-Concevoir avec les Citoyens un Nouvel ELevage Laitier de montagne Ecologique; in English: Co-design project with citoyens for a new ecological mountain dairy farming) coordinated by a group of researchers from several UMR (Herbivores, EPIA, Territories). The thesis will be co-supervised by Gwenaël Vourc'h (DR INRAE, UMR EPIA Epidemiology of animal and zoonotic diseases, near Clermont-Ferrand, France) and Julie Labatut (CR INRAE, UMR AGIR, hosted at UMR GABI near Paris). G. Vourc'h works on the ecology of infectious and zoonotic diseases and will bring skills in animal health. She applied innovative design approaches to issues related to antibiotic resistance and Lyme disease.

J. Labatut develops approaches around "common goods" to understand how different forms of cooperation are implemented and destabilized in the management of common resources. In particular, she will provide skills on innovative design.

We will develop a specific collaboration with the bearers of Theory and Methods of design at Mines ParisTech within the framework of the hosting agreement of Julie Labatut. The candidate will be able to follow a training course dedicated to doctoral students on innovative design during the first year.

In addition, Julie Duval (researcher, UMR Territories) will participate in the supervision of the thesis as a member of the steering group of Coccinelle in which the thesis is integrated.

The doctoral student will be enrolled in the Life Sciences, Health, Environment and Agronomy doctoral school in Clermont-Ferrand: <https://svsae.ed.uca.fr>

The doctoral contract is funded by the INRAE Health and Welfare of Livestock Animals metaprogramme (SANBA) and the I-SITE CAP 2025 project (<https://cap2025.fr/>).

### Requirements

- Master 2 diploma allowing to apply for a PhD.
- Being classified in the first half of Master 2 is recommended.
- Expected skills and knowledge:
  - o Very good writing skills
  - o Knowledge about animal husbandry is expected and animal health is a plus
  - o Ability to analyze problems in a multi-factorial way is a plus
  - o Ability to work with several disciplines and different types of actors is recommended
  - o Expression and organizational skills are required
  - o Faculty to exchange with the various stakeholders in French
  - o Ability to understand and analyze scientific articles in English and to express themselves in English both orally and in writing is expected.

### Conditions

- 36 month doctoral contract
- Beginning between September and December 2020
- Location on the Theix site of the INRAE Clermont-Auvergne-Rhône-Alpes center (near Clermont-Ferrand)
- Travel in regions and in Paris to be planned
- Salary: around 1700 - 1800 euros (with charges)
- Skills that can be acquired during the thesis: Ability to mobilize and adapt the theory and methods associated with innovative design; Ability to support participatory approaches involving different actors; Ability to report on their work, orally and in writing in the scientific field and in popularization; Ability to conduct a reflexivity and evaluation process; Mastery of project management, including risks;

### Application

- Send CV, motivation letter and contact details of two people for reference before **June 17, 2020** to [gwenael.vourch@inrae.fr](mailto:gwenael.vourch@inrae.fr)
- An interview of the candidates with a jury made up of several members.
- Contact
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