

## **Post-doctoral position: bioeconomic optimization modelling applied to animal agriculture in Europe**

### **Project duration**

18 to 24 months

### **The project**

The candidate will contribute to a research project aiming at developing a multicriteria sequential bioeconomic optimization model for the cattle herds. The specific task of the candidate will be to develop a cow-calf herd bioeconomic modelling, especially focused on multicriteria including biosecurity and respiratory diseases outcomes. The candidate will benefit from the experience of the team in such interdisciplinary approaches (<https://medpopbov.envt.fr/dairyhealthsimulator/>).

The project aims at developing an economic approach of AMU at cow-calf farm level, focusing on antimicrobial and non-antimicrobial inputs substitution, and accounting for changes in the animal health framework. The bio-economic model optimization will look for solution that helps to reduce antimicrobial use or to improve biosecurity without impairing farm income. It will consider simultaneous various constraints such as farmer labor, animal welfare and market and climatic risk. Marginal opportunity cost of various health and herd management strategies are calculated and the sequential best strategies are defined according to various contextual situations.

### **Your profile**

Applicants should have recently earned a Ph.D. in Economics of agricultural production (or should be near completion of the dissertation) and should have shown interest in the topics of the group. The preferred candidate has demonstrated her or his potential to conduct high-quality research, ideally by having some papers under revision or even accepted for publication in refereed international journals. The successful applicant is expected to have experience in Python and Gams language. An experience in application of economics to animal science is welcome but not mandatory.

### **Your benefits**

The Postdoctoral research will benefit from our agile management system, and will have the opportunity to participate in many research activities (seminar series, conferences) and attend executive education sessions. Salary will be commensurate to experience, and benefits (health and vacations) follow French regulations.

## Our group

We are an enthusiastic group of researchers dedicated to the improvement of livestock and farmers well-being. We use innovative analytical tools to address modern challenges of economics of animal health:

- Assessing human decision-making with empirical and data-driven work
- Evaluating the effects of public policies in the animal health sector, at micro and macroeconomic scales
- Working transdisciplinary by combining computer science, systems approaches, epidemiology and economics.
- Understanding epidemic dynamics, using modelling and computer simulation of complex animal and human interactions

We are based on the gorgeous campus of the National Veterinary School of Toulouse. Our research team is integrated to The French National Research Institute for Agriculture, Food, and the Environment (INRAE), which is a public research establishment under the dual authority of the Ministry of Agriculture and the Ministry of Research. The institute is among the world leaders in agricultural and food sciences, in plant and animal sciences, INRAE's main goal is to be a key player in the transitions necessary to address major global challenges.



### Find more:

<http://www.envt.fr/>

<https://epidec.weebly.com/>

<https://medpopbov.envt.fr/>

## Interested?

We look forward to receiving your online application in a single pdf with the following documents: a letter of motivation, your CV, university transcripts, two academic references.

Please send the documents to:

[guillaume.lhermie@envt.fr](mailto:guillaume.lhermie@envt.fr) [didier.raboisson@envt.fr](mailto:didier.raboisson@envt.fr)

**Application close: 31 June 2020.** *Due to Covid-19 situation, the selection process will start before dead line. We consequently invite candidates not to wait for application closure for at least first contacts.*

The position is ideally planned to start in September 2020. This is subject to changes, due to the international Covid-19 situations, and we will be comprehensive with constraints that apply to international candidates.