# Opening a post-doc position on "Role of individual decision-making processes on infectious diseases spread

A Postdoctoral Research Associate is available at the Claude Bernard University – Lyon 1 (France) for modelling the impact of farmers' behaviour on the spread of infectious diseases in livestock and its implication on disease mitigation strategies.

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Foot-and-mouth disease (FMD) and African swine fever (ASF) are highly contagious transboundary animal diseases that are caused by viruses and spread across multiple countries. Both FMD and ASF are listed as notifiable terrestrial animal diseases by the OIE and are regarded as major challenges for livestock industry and economic growth globally due to their associated production losses and trade restrictions to disease free markets.

In Europe, incursions of FMD and ASF results in all animals in the infected farms to be culled within 24h. In addition, a movements' restriction zone (MRZ) is immediately enforced within 10km around each infected farm, prohibiting all movements of animals coming in and out the MRZ to limit the spread of the disease while, at the same time, allowing farms outside the MRZ to keep trading to limit the economic impact of epidemics on the industry. Although actions of animal owners whose herds are inside the MRZ are limited, those outside the MRZ still need to trade and act according to restrictions in place as well as their own perception of the risk of being infected at short, medium and long term. In contrast, control strategies in resource-limited countries, where these diseases have often reached endemicity, are restricted to herds that have been detected infected. In both situations, the decision process of individual animal owners will impact on the spread of these diseases by generating new potential transmission pathways and affect the robustness of mitigation strategies.

The primary focus of this transdisciplinary (epidemiology, economics) project is to develop an epidemiological simulation model aiming to 1) better understand how the spread of notifiable infectious diseases in the livestock industry is affected by farmers' decision-making; 2) assess how accounting for farmers' trading behaviours may impact industry-wide mitigation strategies; and 3) identify optimisation strategies to control infectious diseases. Ultimately, this project will improve our capacity to respond to
notifiable livestock diseases and reduce their impact on both trade and animal health.

Please submit current CV, academic qualification certificates and cover letter
addressing the requirements above, by email to:
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For more details, please dowload full job description
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