

Post-doctoral position open at INRAE, Clermont-Ferrand, France

“Refine the identification and the phylogenetic distribution of orthonairoviruses in French tick populations and their hosts and assess their prevalence”

18 month starting January 2022

The unit EPIA (Epidemiology of Animal and Zoonotic Diseases) (<https://www6.clermont.inrae.fr/epia>) at INRAE is welcoming applications from enthusiastic and independent Post-doctoral candidates to participate to starting research project on Ecology of orthonairoviruses.

Objectives: (1) Search for orthonairoviruses using high throughput sequencing on an existing collection of ticks stored at -80°C and newly collected ticks to assess their prevalence in further experiments. (2) Characterize variability of the identified strains and other tick borne pathogens.

Environment: The EPIA unit belongs to INRAE (The French National Research Institute for Agriculture, Food and Environment), a world leader in agriculture, food and the environment. It is located at INRAE Research Centre of Clermont-Auvergne-Rhone-Alpes (Theix), France. The Unit has a strong background on ticks, tick borne pathogens and on Impact of pathogen and microorganism interactions on pathogen distribution. The unit offers molecular laboratory facilities including qPCR and medium scale NGS sequencing facilities. Several members of EPIA develop research on the molecular epidemiology and genome evolution of pathogens.

Candidates: The applicants are expected to have a strong background in viral pathogen characterization using NGS, from molecular biology to bioinformatics analyses. A background in ecology and evolution of vector pathogens will be appreciated. Prior experience in epidemiology and phylogenetic, and international training will constitute an advantage. The ideal candidates should be highly motivated, curious and enthusiastic to work in a collaborative team. Proven ability to identify research objectives and to meet agreed deadlines are essential. Flexibility and willingness to be involved in other ongoing research works will be appreciated. Excellent written and communication skills in English are required.

Employer: Claude Bernard University Lyon 1, Laboratoire de Biométrie et Biologie Evolutive

Application: Please send your application (CV including publication list and names of 2 referees + cover letter + a concise summary of previous research activities) to:

- Karine Chalvet-Monfray (karine.chalvet-monfray@vetagro-sup.fr)
- Xavier Bailly (xavier.bailly@inrae.fr)

Date of publication: 13th October 2021 **Deadline for application:** 20th November 2021

Recent publications related to the position:

Cat J, Beugnet F, Hoch T, Jongejan F, Prangé A, Chalvet-Monfray K. Influence of the spatial heterogeneity in tick abundance in the modeling of the seasonal activity of *Ixodes ricinus* nymphs in Western Europe. *Exp Appl Acarol*. 2017;71(2):115-130. doi:10.1007/s10493-016-0099-1

Lejal E, Marsot M, Chalvet-Monfray K, et al. A three-years assessment of *Ixodes ricinus*-borne pathogens in a French peri-urban forest. *Parasites and Vectors*. 2019;12(1):1-14. doi:10.1186/s13071-019-3799-7

Binetruy F, Bailly X, Chevillon C, Martin OY, Bernasconi M V., Duron O. Phylogenetics of the *Spiroplasma ixodetis* endosymbiont reveals past transfers between ticks and other arthropods. *Ticks Tick Borne Dis*. 2019;10(3):575-584. doi:10.1016/j.ttbdis.2019.02.001

Jacquot M, Abrial D, Gasqui P, et al. Multiple independent transmission cycles of a tick-borne pathogen within a local host community. *Sci Rep*. 2016;6:1-12. doi:10.1038/srep31273

Thézé J, Li T, du Plessis L, et al. Genomic Epidemiology Reconstructs the Introduction and Spread of Zika Virus in Central America and Mexico. *Cell Host Microbe*. 2018;23(6):855-864.e7. doi:10.1016/j.chom.2018.04.017

Moutailler, S., I. Popovici, E. Devillers, M. Vayssier-Taussat, et M. Eloit. « Diversity of Viruses in *Ixodes Ricinus*, and Characterization of a Neurotropic Strain of Eyach Virus ». *New Microbes and New Infections* 11 (mai 2016): 71-81.

<https://doi.org/10.1016/j.nmni.2016.02.012>.