



## EVOLUTIONARY ECOLOGY

### QUANTITATIVE AND EVOLUTIONARY ECOLOGY OF COMMUNITIES GROUP

**NICVERT Lisa**

**DOCTORANTE**

UCBL

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I am a Phd student (she/her) at the LBBE since October 2020, and I am supervised by Stéphane Dray (LBBE) and Hervé Fritz (IRL REHABS). My PhD subject is: "Analysis of the composition patterns of African fauna communities from camera trap data: identify co-occurrence networks and explore their robustness in the face of contrasting management modes and climate constraints".

## Research

My research focuses on the interaction networks between species within a community. A first axis of my PhD consists in investigating methods to infer interactions between species from camera trap data. To do this, I use statistical models to infer attraction-repulsion networks between species. I use data from the

[Snapshot Safari South Africa program](#) ↗

, which manages camera trap grids in protected areas in South Africa. Some of the results of this axis have been published in the article "

[Using the multivariate Hawkes process to study interactions between multiple species from camera trap data](#)" ↗

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A second axis of my PhD consists in analyzing interaction networks, especially the link between species traits and their interactions. Therefore, I use multivariate methods applied to a bipartite interaction matrix.

Finally, a third axis of my PhD consists in developing a R package as well as a Shiny app to analyze camera trap data. The code is on




[GitHub](#) ↗

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URL of the page: <https://lbbe.univ-lyon1.fr/en/annuaires-des-membres/nicvert-lisa>

## Teaching ("activité complémentaire d'enseignement")

As a PhD student, I have had the opportunity to take part in some teaching activities in the frame of the complementary teaching activity ("activité complémentaire d'enseignement") since October 2020. This consists in teaching practicals and tutorials for undergraduate students for 64 hours a year. I mainly taught statistics and R programming. In particular, I taught in the following courses (links in French):

- Practical and tutorials for the [Biostatistics and bioinformatics](#)   
course (L2)
- Practical for the [Bio-mathematics and Modelling BISM](#)   
course (L3)
- Practical for the [Biology and Modelling](#)   
course (L1)




## Science popularization

I am very enthusiastic about science popularization. Besides, I am deeply convinced of its usefulness both for the general public and for my own research. I regularly take part in scientific outreach actions, such as the "*conférences embarquées*" (mini-conferences on a boat), the "*Fête de la Science*" (national science festival) or the *Déclics* meetings with high school students.

I have also been a member of the

[Projet Pangolin](#) 

society, which raises awareness about ecology and gives means to preserve the environment and biodiversity. I contribute mainly through drawings, but I also write articles for the blog. Here are some blog articles for which I contributed (in French):

- the [Naturalist guide on insects](#)   
and the [Naturalist guide on trees](#)   
(drawings)
- the article about [citizen science](#)   
(co-writing)