



## 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-web.univ-lyon1.fr/en/annuaire-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):

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