



Louna Colaert-Sentenac

PhD student

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Driving licence B

About me

Hi! I'm a PhD student in microbial ecology and plant physiology, training to become a researcher in ecology. I'm particularly interested in the interactions between plants, their microbiome and their ecosystem under stress.

Computer skills

GIMP, Inkscape, ImageJ, Zotero,
Unix-Linux, Git & Github,
R, Python, QGIS,
OpenOffice, \LaTeX , Emacs

Lab skills

Spectrophotometry, Electrophoresis,
Chromatography, Microscopy,
Bacterial and fungal culture,
soil & plant tissues DNA extraction,
Metabarcoding,
Metabolomics (GC-MS),
Greenhouse experiment (wheat, bean,
grassland plant species)

Research Activities

10.2023-
2026

PhD: Seed microbiota influence on seedling emergence and tolerance to soil-borne pathogens in *Phaseolus vulgaris* IRHS-INRAE, Angers

supervised by Marie Simonin, Élisabeth Planchet, Béatrice Teulat
financed by an ENS-ministry awarded grant

07.2023

Talk: Integrative Comparison of Seeds of eight *Phaseolus vulgaris* genotypes ISSS 2023, Paris

presentation at an international congress, multiomics and phenotypic data analysis

2023
6 months

Internship: Influence of seed microbiota on seedling emergence and metabolism IRHS, INRAE, Angers

supervised by Marie Simonin, Élisabeth Planchet, Béatrice Teulat
experimental design, culture chamber and greenhouse experiment, metabolomics, plant physiology, multiomics data analysis

2022
4 months

Internship: Metrics development to count alternative transient states of dynamic communities LISC, INRAE, Clermont-Ferrand

supervised by Franck Jabot
bibliography, Integrative Projection Models (IPM) modelling, packages ipmr, Rpadrino, maTreeX

2022

Congress: Ecology and Evolution: New perspectives and societal challenges SFE² GfÖ EEF, Metz

workshop on ipmr and Rpadrino

2022
2 months

Student job: Study of soil drought legacy impact on native plant fitness (greenhouse experiment) ILVO, Merelbeke, Belgium

supervised by Coline Le Noir de Carlan and Caroline de Tender
greenhouse experiment, C/N analyses

2022
5 months

M2 Internship: Study of soil microbiome in relation to root presence and soil warming PLECO, Antwerpen, Belgium

supervised by Coline Le Noir de Carlan and Erik Verbruggen
DNA library preparation, metabarcoding analyses, Bachelor student supervising, writing, presentation before an international audience

2022

Short review writing training: How does soil warming impact soil microorganism communities and functions? ENS de Lyon, Lyon

reviewed by Erik Verbruggen, Coline Le Noir de Carlan, Jean-François Bruxelles, Daniel Muller, and Sara Marañón Jiménez
from subject choice to reviewing corrections

2020
4 months

M1 Internship: Modelled Climate Change Impact on Forests in the Brazilian Atlantic Forests UFJF, Juiz de Fora, Brazil

supervised by Helder Nunes Candido and Fabricio Alvim Carvalho
manipulation of flora databases, QGIS, R, MaxENT models, additional fieldwork, writing

2019
2 months

L3 Internship: Isolation and Characterization of putative endophytic cultivable bacterial strains from three soft wheat cultivars (*Triticum aestivum*) LSTM, CIRAD-IRD, Montpellier

supervised by Ezekiel Baudoin

tissue disinfection, bacteria cultivation, microbiology physiology tests, sterile plant growth, greenhouse experiment, DNA extraction, library preparation, sequencing analyses, writing

Interests

reading, climbing, drawing, trekking, martial arts, music

Languages

English: C2 (Cambridge 2020)

German: B1

Portuguese: conversational

Strengths

independent, organized, enthusiastic, curious, fast learner, hard-working

References

PLR2 & PhD supervisors :

marie.simonin@inrae.fr

elisabeth.planchet@univ-angers.fr

beatrice.teulat@agrocampus-ouest.fr

PLR1 internship supervisor:

franck.jabot@irstea.fr

MSc2 internship supervisor:

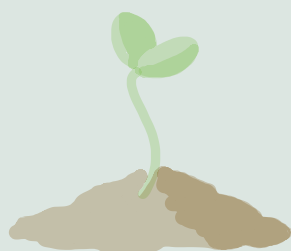
erik.verbruggen@uantwerpen.be

MSc1 internship supervisor:

fabricio.alvim@gmail.com

ENS tutor:

christine.miege@ens-lyon.fr



Education

2021–2022 2nd year of MSc, Biosciences and Complex systems ENS de Lyon



Fundamentals in computer sciences, Methods in complex systems, Machine learning, Modelling social systems, Modelling biology, Data processing, Complex networks, Comparative genomics, Practicals in next generation sequencing

2020–2021 Gap year France, Colombia, Sweden, Senegal, Germany, Czechia

MOOCs in Computer Science, Data Science, Statistics, Research Ethics, Integrity and Reproducibility; History of Sciences; Philosophy; Economics; International openness

2019–2020 1st year of MSc, Biosciences ENS de Lyon, Lyon



Development biology, Physical biology of the cell, Genetics and genomics of populations, Ecology, Adaptation Development Evolution

2018–2019 BSc, Biosciences ENS de Lyon, Lyon

Bio-statistics, Genetics, Cell biology, Evolution and genetics of populations, Development biology, Physiology, Ecology, Immunology, Genomics, Biochemistry, Biodiversity, Bio-informatics, Practical work: Physiology and Genetics

2015–2018 prepa BCPST Chateaubriand, Rennes



undergraduate courses to prepare nationwide competitive exams in biology, mathematics, physics, chemistry

2015 High-school degree in sciences E. Renan, Saint Brieuc

European mention, with distinction

Public engagement



2023–2024 DCACE: supervision of practical and tutorial classes for first-year college student Angers University

Introduction to microbiology

08.2023 supervision of a "Girls Can Code" one-week informatics internship for secondary and high school female students Lyon, France

introduction to coding with python, pygale and microbit, introduction to website design with html/css

2023 Tutoring for middle school students Angers, France

2021 Tutoring for middle and high school students Lyon, France

2020 Workshop on Animal societies ENS de Lyon and H. de Balzac school, Venissieux

Conception and animation of popularised, participative sciences workshops for middle school students

2019 Lyon Science Festival Lyon, France

conception of a game on immunology, from bibliography to workshop facilitation

2015 Assistant Professor in a Walfdorfschule Wiesbaden, Germany

4 weeks familiarization with an alternative teaching method