Juliette Luiselli

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Education

Initial training

2022

PhD thesis, *INSA Lyon & INRIA*, Lyon
Under the supervision of Guillaume Beslon and Nicolas Lartillot

2017 – 2022

ENS Diploma, *École Normale Supérieure*, Paris
Biology major, Computer Sciences minor

2019 – 2021

Interdisciplinary Master in Life Sciences, *ENS*, Paris
Major Ecology & Evolution : Evolutionary Biology, Adaptive Dynamics, Evolutionay Ecology, Computational Biology, etc.

2018 – 2019

Bachelor of Science in Computer Sciences, *ENS*, Paris
Compilation, Algorithms, Databases, Machine Learning, Random structures, etc.

2017 – 2018

Bachelor of Science in Biololgy, *ENS*, Paris
Bioinformatics, Biostatistics, Molecular Biology, Evolution, Genomics, etc.

2015 – 2017

Higher School Preparatory Classes : Biology, Chemistry, Physics, Mathematics and Earth Sciences, *Lycée Saint-Louis*, Paris

Continuing training

February 2023

The Genomics of Transposable Elements., *IBENS*, Paris
Winter school for PhD students, by PSL Qlife. Included a poster presentation.

Mar – April 2022

Computational Biology, *Utrecht University*, Utrecht
MSc course by Paulien Hogeweg

Research experiences

2022

Investing the influence of effective population size on genome architecture, *INSA Lyon & INRIA*, Lyon, PhD thesis
Under the supervision of Guillaume Beslon and Nicolas Lartillot

Febr 2022 – June 2022

Multilevel stochastic error correction: the role of fission/fusion dynamics in maintaining genome integrity of mitochondria, *Utrecht University*, Utrecht
Theoretical Biology and Bioinformatics Team, supervised by Paulien Hogeweg

2019 – 2022

Studying the genome architecture with Aevol, *INRIA*, Lyon
Beagle Team, supervised by Guillaume Beslon
3 internships, studying the role of transposable elements, population size, and sex and recombination on genome structure.

Febr – June 2020

Distinguishing different forms of competition in a mechanistic model of eco-evolutionary dynamics, *Imperial College*, London
Silwood Park – Supervised by James Rosindell

June – Aug 2018

The Cretaceous–Paleogene biocalcification crisis, *Université Pierre et Marie Curie*, Paris, CR2P
Supervised by Silvia Gardin

Sept 2017 – May 2018

Experimental evolution in a fluctuating environment, *Institut de Biologie de l'École Normale Supérieure*, Paris
Team of Henrique Teotonio

Conferences

Nov 2023

Talk at ETEE 2023, *Empirism & Theory in Ecology and Evolution, Saclay*, Talk on Genome streamlining

July 2023

Poster presentation at SMBE, *Meeting of The Society for Molecular Biology & Evolution , Ferrara*, Poster presentation on genome streamlining

June 2023

Invited speaker at Evolution, *Evolution, Albuquerque*, Talk on Detecting the ecological footprint of selection in comparative phylogeographic datasets

June 2022

Co-animation of CPM cell modelling workshop, *NLSEB PhD/Post-doc meeting*, Discovery workshop of CPM simulations for biologists.

Teaching experiences

Oct 2022 – Feb 2024

Project supervision of 5^{th} year students, *INSA Lyon*
Supervision of 3 students in final year of engineering school for a machine learning project

Oct 2022 – Jan 2024

C^{++} and Python practicals, *INSA Lyon*
C^{++} and Python discovery with 3^{rd} and 4^{th} year students

2023

Project supervision of 4^{th} year students, *INSA Lyon*
Supervision of 2 groups of 5 students for a software development and machine learning project

Oct 2022 – Jan 2023

Mathematical and software tools, *IUT Gratte Ciel*, Lyon
Practicals with first year undergraduate students

Sept 2018 – Febr 2020

Weekly official undergraduate Biology examiner, *Lycée Saint-Louis*, Paris
Testing groups of 3 students each week on their biology and earth sciences knowledge

Sept 2017 – Juin 2019

Private lessons for high school and higher school preparatory classes students
Mathematics, Physics, Chemistry, Biology, German

Associative and administrative commitments

2023 –

Elected member of the center committee, Lyon
Representing PhD students and other non-permanent workers at the INRIA Lyon center committee.

2023 –

Femmes & Sciences, Lyon
Various interventions with children and teenagers to promote scientific careers for women.

Sept 2021 – Janv 2022

Tutoring and sciencific popularization, *Primary and secondary schools*, Paris
Accompaniment of students with difficulties in secondary school ("ECLOR" association) and discovery of the theory of evolution and scientific method in primary school ("La main à la pâte" association)

2019 – 2021

Elected representative student, IBENS, Paris
Representing students of the biologiacl department at the ENS for all interactions with the teaching staff and the administration.

Dec 2018 – Nov 2020

Elected member of the Délégation Générale, *ENS*, Paris
The *Délégation Générale* is a group of 4 students who are the main interface bewteen students and the school administration. We are managing the student accomodations, storage rooms and other shared spaces, and taking part to the long term planification of accomodation management. Overall work is described in both year's activity reports (2019 and 2020). Notable contribution to a comprehensive report on the state of school housing and to a proposal for reform of the housing system.

July 2019

Volunteer in the international Mathematical Models in Ecology and Evolution conference, *INRIA*, Lyon, France
Helping for the organization of the MMEE conference and attending presentations.

June 2018 – Jan 2019

Elected member of the student office (Responsible for Arts), *ENS*, Paris
The student office is a group of 13 students organizing most of the student cultural life at school.

Skills

Computer Linux, C^{++}, Python (pandas, pytorch, django), JavaScript, OCaml, R, SQL, HTML
Languages French (native), English (fluent), German (fluent), Esperanto (beginner)
Hobbies Volleyball, Fantasy books, Video games, Climbing, Wikipedia

Publications

[1] **J. Luiselli**, P. Banse, D. P. Parsons, T. Grohens, M. Foley, L. Trujillo, J. Rouzaud-Cornabas, C. Knibbe, and G. Beslon. Forward-in-time simulation of chromosomal rearrangements: The invisible backbone that sustains long-term adaptation. *Molecular Ecology*, december 2023.

[2] **J. Luiselli**, I. Overcast, A. Rominger, M. Ruffley, H. Morlon, and J. Rosindell. Detecting the ecological footprint of selection. *bioRxiv*, 2023. *in review*.

[3] **J. Luiselli**, J. Rouzaud-Cornabas, N. Lartillot, and G. Beslon. Genomes streamlining in prokaryotes: effect of mutation rate and population size on genome size reduction. 2023. *in prep*.