Samson Acoca-Pidolle

1200 Sunnyside Avenue
Haworth Hall, University of Kansas
Lawrence, KS 66045, USA
samson.acoca-pidolle@normalesup.org
www.normalesup.org/~sacocapi/
ORCID: 0009-0002-8456-5588

About me

Evolutionary ecologist deeply interested in evolution of sexuality and mating system, particularly in Angiosperms. I'm interested in pollination and therefore in plant-pollinator interactions. I would like to use, both, theoretical and experimental approaches to better understand plant evolution and diversification.

Postdoctoral research experiences

2025–today **Postdoctoral researcher**, *University of Kansas*, USA, mentored by Lena Hileman and John K. Kelly
Characterising genetic changes associated to changes in pollinators in flowering plants

Education

2021–2024 **PhD in Evolutionary Biology & Ecology**, *Centre d'Écologie Fonctionnelle et Évolutive (CEFE), University of Montpellier*, France, supervised by Pierre-Olivier Cheptou
Back to the past: rapid adaptation of the reproductive system in flowering plants, reviewed by John K. Kelly and Emmanuelle Porcher and defended in front of reviewers, Ophélie Ronce, Isabelle de Cauwer and Mathieu Lihoreau.

2020–2021 **Master (2nd year) in Ecology & Evolution**, *École normale supérieure*, Paris, France, with highest honors
Courses in Functional and evolutive genomic, Adaptative dynamics, Advanced population genetics, Introduction to molecular phylogeny, Life cycle evolution and a six-months research project performed in Montpellier, France.

2019–2020 **Preparation and obtention of the *Agrégation* in Life, Earth and Universe Sciences**, *École normale supérieure de Lyon*, Lyon, France
Passed the *Agrégation*, a very competitive national examination (65 positions for 1000 candidates) to become a qualified professor to secondary school and university students, following a one-year intensive course in biology, geology and pedagogy.

2018–2019 **Master in Biology (1st year)**, *École normale supérieure*, Paris, France, obtained with honors
Courses in Evolutionary Genetics, Evolutionary Ecology, Evolution, Advanced mathematics applied to biology and a five-months research project performed in Zürich, Switzerland.

2017–2018 ***Licence* in Biology**, *École normale supérieure*, Paris
Equivalent to a Bachelor of Science degree. Courses in Ecology, Evolution, Genetics, Cellular and developmental biology, Statistics, Mathematics applied to model in biology, a during-year research project performed at the Institut of Biology of the ÉNS and a terminal two-months research project performed in the Station of Theoretical and Experimental Ecology (Moulis, France).

2017 **Admission to *École normale supérieure***, *Biology department*, Paris, France
The *École normale supérieure (ÉNS)* is a top-level higher education institution providing training to students who will become researchers and professors in their field (21 positions for 728 candidates in 2017). Entrance to the *ÉNS* is done at the equivalent of Year 3 of a BSc, and enrollement lasts four years covering two years of a Masters degree plus one year of intensive preparation for future research and/or teaching.

2015–2017 ***Classes préparatoires***, *Lycée Carnot*, Dijon, France
A two-year undergraduate intensive courses in Earth and Life Science, Mathematics, Physics and Chemistry preparing for highly competitive national entrance examinations to the French *Grandes Écoles* such as the *École normale supérieure*.

2015 ***Baccalauréat***, *Lycée Chevalier d'Éon*, Tonnerre, France, obtained with highest honors
Equivalent to the A-level or the high school diploma.

Pre-doctoral research experiences

6 months (Jan.–June) 2021 **2nd year Master project**, *Center for Functional and Evolutionary Ecology (CEFE)*, CNRS, Montpellier, France, supervised by Pierre-Olivier Cheptou
Evolution of *Viola arvensis* using resurrection ecology approach. Collection in the field, germination, maintenance and phenotyping (floral and vegetative morphometry) of 8 populations (256 individual in total). Statistical analyses performed in R.

5 months (Feb.–June) 2019 **1st year Master international project**, *Department of Systematic and Evolutionary Botany*, Universität Zürich (UZH), Switzerland, supervised by Léa Frachon et Luca Arrigo in Florian Schiestl's team
Impact of herbivory in phenotypic variation of *Brassica incana* in 20 natural populations. Field work around Naples during two months to measure floral, vegetative and fitness traits, with a focus in herbivory in my case. Collection of scents and genetic material. Statistical analyses performed in R.

2 months (June–July) 2018 **Short research project in Ecology**, *Station d'Écologie Théorique et Expérimentale (SETE)*, CNRS, Moulis, France, supervised by Simon Blanchet
Impact of intraspecific richness on ecosystems functioning. Measures of primary productivity in aquatic mesocosm. Identification and counting of zooplankton and benthic arthropod larvae. Help of monitoring of wild freshwater fish populations during electrofishing. Statistical analyses performed in R.

1 day/week 2017–2018 **Immersion in a research team**, *Institut of Biology of the ÉNS (IBENS)*, Paris, supervised by Elena Kazamia in the Chris Bowler's team
Mathematical modeling to test stability of mutualistic or antagonistic interactions among algae for the production of a public good. Model construction and analytical resolution manually. Simulations programmed in Python. Work presented to the Institut during a poster session.

Publication

[2] Samson Acoca-Pidolle, Perrine Gauthier, Louis Devresse, Virginie Pons, Pierre-Olivier Cheptou (2024), Ongoing convergent evolution of a selfing syndrome threatens plant-pollinator interactions, *New Phytologist* **242(2)**. Featured in news such as *The Guardian*, *The New York Times*, *El País* and *Le Monde*.

[1] Allan Raffard, Julien Cucherousset, José M. Montoya, Murielle Richard, Samson Acoca-Pidolle, Camille Poésy, Alexandre Garreau, Frédéric Santoul, Simon Blanchet (2021), Intraspecific diversity loss in a predator species alters prey community structure and ecosystem functions, *PLoS Biology* **19(3)**.

Communications

July 2024 **Oral communication at Evolution 2024**, Montréal, Canada

Nov. 2022 **Oral communication at the joint meeting of the french, german and european societies of evolution & ecology (SFE²-GfÖ-EEF)**, Metz, France

August 2022 **Poster presentation at the European Society of Evolutionary Biology (ESEB) congress**, Prague, Czech Republic
Awarded among outstanding student poster

Teaching

2021–2024 **Teaching assistant in Biology (64h per year)**, University of Montpellier (France)

- From cells to organisms (practical work, undergraduate level)
- Functional ecology (practical work, undergraduate level)
- Diversity and evolution of present and past Metazoans (practical work, undergraduate level)
- Preparation for the "Agrégation" in Life, Earth and Universe Sciences (national examination to become a qualified professor to secondary school and university students) (graduate level, design and assessment of mock oral and practical subjects)

Supervision

March–June 2024 Co-supervision of a first-year Master student: Measurement of selective gradients in presence or absence of pollinators in *Viola arvensis*.

March–June 2022 Co-supervision of a first-year Master student: Contemporary evolution of *Viola arvensis* attractiveness.

March 2022 Co-supervision of a first-year undergraduate student.

Skills

Computer skills

R Proficiency in programming (e.g. data manipulation, visual representations) and statistical analyses developed during several courses of BSc and MSc, three different research project and my years of PhD research

Python Proficiency in programming (model analytical resolution, simulations and visual representations) developed during courses of BSc, including a programming project during *Classes préparatoires* and small research project during *Licence* and MSc

Practical skills

Experiment Establishing protocoles and conducting experiments on plants

Phenotyping Following several traits and measuring them (on field or in greenhouse)

Lab work Micro-dissecting under binocular and counting objects under binocular or microscopes (e.g. count of ovule and pollen grains from buds)
Genotyping: DNA extraction from leaves, PCR preparation, and microsatellite reading

Field work Experience of field work (even over months) with several people

Lab life Organisation of the lab scientific day, of several team meetings and of some social events

Languages

English Professionnal proficiency (international collaboration, international congress, publication writing)

French Mother tongue

German Intermediate level