



Joseph Penlap Tamagoua

Researcher – Mathematical Modeller

[MyWebsite](#)

Born 27th May 2000

Cameroonian

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Education

Université Côte d'Azur

PhD in Information and Communication Sciences and Technologies

Oct. 2022 - Feb. 2026

Nice, France

- Title: Ecophysiological modelling of plant–nematode interactions: Understanding the origins and consequences of differential plant susceptibility [\[pdf\]](#)
- Advisors: Frédéric Grogard, Valentina Baldazzi, Suzanne Touzeau

African Institute for Mathematical Sciences (AIMS)

Master in Mathematical Sciences, Data Science

2021 - 2022

Limbe, Cameroon

- Title: Modelling the dynamics of a forest environment: role of water cycle
- Advisor: Nathalie Verdière

University of Dschang

Master in Mathematics, Analysis

2019 - 2021

Dschang, Cameroon

- Title: Spaces of locally uniformly bounded functions and applications
- Advisor: Jean Louis Woukeng

University of Dschang

Bachelor in Mathematics and Computer Science

2016 - 2019

Dschang, Cameroon

Work Experience

Temporary Teaching and Research Assistant (ATER)

Polytech Nice Sophia

Sept. 2025 - Aug. 2026

Sophia Antipolis, France

Research visit - [Garett's lab](#)

University of Florida - Plant pathology department

Dec. 2023

Florida, USA

Doctoral Researcher - *Inria-INRAE grant*

Inria, [Macbes](#) team & INRAE, Institut Sophia Agrobiotech / [M2P2](#)

Oct. 2022 - Sept. 2025

Sophia Antipolis, France.

Research Intern

Mathematics Research Unit (URMA)

Apr. 2019 - July 2021

Dschang, Cameroon

Teaching Experience

Lecturer

Polytech Nice Sophia

Sept. 2025 - Aug. 2026

Sophia Antipolis, France

- Linear Algebra, 60 hours/year
- Supervision of projects, 30 hours/year
- Data Valorization, 46 hours/year
- Fundamentals in Analysis I & II, 60 hours/year

Teaching Assistant

Université of Côte d'Azur

Oct. 2022 - July 2025

Nice, France

- Mathematical Analysis, 56 hours/year
- Linear Algebra, 32 hours/year

Instructor

University of Dschang

Mar. 2021 - June 2021

Dschang, Cameroon

- Introduction to Statistics, 15 hours/year

Publications

1. **Penlap Tamagoua, J.**, Baldazzi, V., Grognard, F., and Touzeau, S., Plant tolerance is explained by resource-based plant–nematode interactions, *Mathematical Biosciences*, Feb. 2026, revision submitted, [hal-05394092](#).
2. **Penlap Tamagoua, J.**, Touzeau, S., Grognard, F., and Baldazzi, V., Unveiling plant tolerance mechanisms through a unified plant–nematode model, 2026, [Preprint](#).
3. Plex Sulá et al. Nine principles for geographic surveillance of biological invasions, 2026, Preprint.
4. Arindam et al., Clean seed game among growers, 2026, Preprint.

Selected Talks & Poster

- 14th European Conference on Mathematical and Theoretical Biology (ECMTB), Toledo, Spain (2024). *Coupling plant physiology and pest demography to understand plant-pest interactions*.
- Plant Pathology Department | Global Food Systems Institute, University of Florida, USA (2023). *Modelling plant–nematode interactions to understand plant tolerance*.
- Mathematical Population Dynamics, Ecology and Evolution (MPDEE), Marseille, France (2023). *Modelling plant–nematode interactions to understand plant tolerance*.
- 13th Dynamical Systems Applied to Biology and Natural Sciences (DSABNS), Bilbao, Spain (2023). Poster. *Modelling plant–nematode interactions to understand plant tolerance*.

Student Supervision

- Del Rosso Luca, Le Potier Killian, Hazo Alexandre, *Démixage de sources musicales par Mixture of Experts*, Final year of Engineering, Polytech Nice Sophia, joint supervision with Lionel Fillatre, 2025-2026 (Projet d'Etudes et de Recherche).
- Lucile Jam, Francesco Orsi, Enzo Rizzo, *Analyse d'étiquettes alimentaires: approches fondées sur les transformers*, Final year of Engineering, Polytech Nice Sophia, joint supervision with Lionel Fillatre, 2025-2026 (Projet d'Etudes et de Recherche).
- Diego Petit, *Clean seeds Model*, 4th Engineering year, Polytech Nice Sophia, joint supervision with Ludovic Mailleret, Frédéric Grognard, Frédéric Hamelin and Israël Tankam, Mai-Sept. 2024 (BEEP project).

Skills

Data & Modelling: Dynamical systems, Optimisation, Sensitivity analysis, Data analysis.

Coding: Python, R, Shell script, GitLab, Streamlit, Gradio.

Operating systems: Linux, Windows.

Cloud computing: Abaca/Grid'5000.

Languages: French (native), English (professional), Ghomà hom (dialect).

Awards and Grants

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| Inria-INRAE PhD Fellowship , Inria Centre at Université de Côte d'Azur. | Oct. 2022 - Sept. 2025 |
| MasterCard Foundation MSc Scholarship for studies at AIMS. | Sept. 2021 - July 2022 |
| President Paul Biya's Academic Excellence Prize , yearly granted to the best students in Cameroon. | Oct. 2018 - Oct. 2021 |
| Olympiades Universitaires du Conseil Africain et Malgache pour l'Enseignement Supérieur (CAMES), winner of the national selection in mathematics. | Jan. 2020 |

Miscellaneous

Scientific mediation: *"How to use mathematics to solve problems in Agriculture?"* to Terra Numerica high school students. Jan 2023

Hobbies: Football, Climbing, Hiking, Traveling, Reading.

References

Frédéric Grognard
frederic.grognard@inria.fr

Valentina Baldazzi
valentina.baldazzi@inrae.fr

Suzanne Touzeau
suzanne.touzeau@inrae.fr