

# Joseph Penlap

Researcher - mathematical modeller

Born 27<sup>th</sup> May 2000 | Cameroonian | (+33) 666245954 | josephpenlap2000@gmail.com | MyWebsite

## Education

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### Université of Côte d'Azur

Oct. 2022 - Feb 2026

*PhD in Information and Communication Sciences and Technologies*

Nice, France

- **Title:** *Ecophysiological modelling of plant–nematode interactions: Understanding the origins and consequences of differential plant susceptibility*
- Advisors: Frédéric Grogard, Valentina Baldazzi, Suzanne Touzeau

### African Institute for Mathematical Sciences (AIMS)

July 2021 - June 2022

*Master in Mathematical Sciences, Data Science*

Limbe, Cameroon

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

### University of Dschang

Oct. 2019 - July 2021

*Master in Mathematics, Analysis*

Dschang, Cameroon

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

### University of Dschang

Oct. 2016 - July 2019

*Bachelor in Mathematics and computer science*

Dschang, Cameroon

## Work Experience

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### Temporary Teaching and Research Assistant (ATER)

Sept. 2025 - Aug. 2026

*Polytech Nice Sophia*

Sophia Antipolis, France

### Doctoral Researcher - Inria-INRAE grant

Oct. 2022 - Sept. 2025

*Inria (Macbes team) & INRAE (Institut Sophia Agrobiotech/M2P2)*

Sophia Antipolis, France.

### Research Intern

Apr. 2019 - July 2021

*Mathematics Research Unit (URMA)*

Dschang, Cameroon

## Teaching Experience

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### Lecturer

2025 - 2026

*Polytech Nice Sophia*

Sophia Antipolis, France

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

### Teaching Assistant

2023, 2024

*Université of Côte d'Azur*

Nice, France

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

### Instructor

2021

*University of Dschang*

Dschang, Cameroon

- Introduction to Statistics, 15 hours

## Publications & Preprints

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1. **Penlap Tamagoua, J.**, Baldazzi, V., Grognard, F., and Touzeau, S., Plant tolerance is explained by resource-based plant–nematode interactions, *Mathematical Biosciences*, 2025 (In revision) ([hal-05394092](#)).
2. **Penlap Tamagoua, J.**, Touzeau, S., Grognard, F., and Baldazzi, V., Unveiling plant tolerance mechanisms through a unified plant–nematode model, 2026, (Working [paper](#)).

## Selected Talks & Posters

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- 13<sup>th</sup> 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.*
- 14<sup>th</sup> Dynamical Systems Applied to Biology and Natural Sciences (DSABNS), Bilbao, Spain (2023). *Modelling plant–nematode interactions to understand plant tolerance.*

## Skills

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**Languages** : French (native), English (professional)

**Coding** : Python, R, Shell scripting, GitLab, Streamlit, Gradio

**Data & Modelling** : Data analysis, Optimisation, Sensitivity analysis

**Operating system** : Linux, Cloud computing

## Awards and Grants

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- **INRAE-Inria PhD Fellowship**, Inria centre at Université of Côte d'Azur 2022-2025
- **MasterCard Foundation MSc Scholarship** for studies at AIMS 2021
- **President Paul Biya's academic excellence prize**, Yearly granted by the President of the republic of Cameroon to the best students 2018 - 2021
- **National winner prize** "Olympiades universitaires du CAMES" (OUC) Africa 2020

## Hobbies

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**Activities**: football, climbing, hiking, traveling, reading

## References

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Frédéric Grognard  
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Valentina Baldazzi  
valentina.baldazzi@inrae.fr

Suzanne Touzeau  
suzanne.touzeau@inrae.fr