

Amandine PEPIOT

PhD in biomathematics and applied mathematics engineer

Open to a post-doctoral position.

E-mail see [here](#)

Webpage apepiot.github.io



RESEARCH

Doctoral studies

2019-2024

Under the supervision of Romulus Breban (Institut Pasteur)

Title of the thesis: *Eliminating HIV with voluntary testing? A game theoretic perspective* [[thesis](#)]

Lab: IPLESP, UMR-S 1136 Inserm-Sorbonne Université, France

Funding: Sidaction and teaching position at INSA Toulouse

Doctoral school: Pierre Louis de santé publique (ED 393)

Skills: epidemic models (4-disease compartmental model), numerical analysis, Matlab, utility theory, numerical optimization, high-performance computing

Research engineer, IPLESP, Paris, France

2018-2019

- Estimation of incidence, hidden epidemic and time between infection and diagnosis of HIV based on departmental data on new diagnoses. Skills: back-calculation model, R, C++, Matlab.

- Analysis of the feasibility of using statistical models to obtain estimates of epidemiological indicators of HIV infection in West Africa (Togo, Burkina Faso, Mali). Skills: R, SAS.

Intern, IPLESP, Paris, France

2018

Subject: *Evaluating the impact of hometests on the HIV epidemic of men who have sex with men in France* [[report](#)]

Supervisors: Virginie Supervie (Inserm) and Romulus Breban (Institut Pasteur)

Skills: epidemic models, numerical analysis, Matlab

Intern, Terres Inovia, Grignon, France

2017

Subject : *Analysis and implementation of linear models to predict the average yield of rapeseed in France*

Supervisor: Sébastien Gervois (Terres Inovia)

Skills: times series, R, Shiny (RStudio)

TEACHING

Teaching assistant at INSA Toulouse, France

2022-2024

Theoretical and applied mathematics for 1st, 2nd and 3rd years of engineering study. *Full time, 2 years.*

Teaching mission as a PhD student, Sorbonne Université, Paris, France

2019-2021

Tutorials of biostatistics for first- and second-year medical students. *64 hrs per year.*

EDUCATION

Doctoral studies

2019-2024

Sorbonne Université, Paris, France

Degree obtained in December 2024.

Academic exchange - winter semester

2017-2018

Technische Universität Dresden, Germany

Theory and applications of partial differential equations, finite elements, mathematical applications in biology and risk modeling.

Engineering school - applied mathematics

2015-2018

National Institute of Science and Technology (INSA), Rennes, France

Engineering program focused on theoretical and applied mathematics.

Degree obtained in June 2018.

Classe préparatoire aux grandes écoles MPSI-MP

2013-2015

Lycée Victor Hugo, Besançon, France

*Intensive academic programs in mathematics, physics and industrial sciences designed to prepare students for entrance exams to France's prestigious higher education institutions.***PUBLICATIONS**

Article, Pepiot A. and Breban R., *Epidemiological strategies based on self-screening tools: A modeling assessment*, submitted, 2024. (see Chap. VII.3. of the [thesis](#))**Article**, Pepiot A, Supervie V. and Breban R. *Impact of voluntary testing on infectious disease epidemiology: A game theoretic approach*. PLOS ONE, 18(11): e0293968, November 2023 [[paper](#)]**TALKS**

Poster, Pepiot A., Supervie V. and Breban R. *Can self-testing end infectious disease epidemics? A tentative answer through game theory*, ECMTB, Heidelberg, September 2022 [[poster](#)]**Presentation**, Pepiot A., Supervie V. and Breban R. *Can self-testing end infectious disease epidemics? A tentative answer through game theory*, Journée Scientifique Sidaction, Paris, March 2022**Poster**, Pepiot A., Supervie V. and Breban R. *Impact de l'auto-dépistage sur l'épidémiologie des maladies infectieuses : Approche par la théorie des jeux*, Séminaire annuel de l'école doctorale Pierre Louis de santé publique, Saint Malo, October 2020 [[poster](#)]**Poster**, Pepiot A., Supervie V. and Breban R. *Vers une élimination des maladies infectieuses avec l'auto-dépistage ? Approche par la théorie des jeux et application à l'épidémie du VIH*. Université des Jeunes Chercheurs Sidaction, Carry-le-Rouet, November 2019 [[poster](#)]**SKILLS**

LANGUAGES**French** - native**English** - proficient**German** - basic/intermediate**PROGRAMMING**

Matlab, R, Python

Basic skills in Julia, C++, SAS

OTHERSL^AT_EX, Microsoft Office, Git ([Github](#))