Frédéric Hamelin — CV

L'Institut Agro – Department of Ecology
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Born on June 22, 1980 in Granville, France

Research and teaching themes: Mathematical Ecology and Evolution, Plant Disease Epidemiology

Positions

- **L'Institut Agro** — **Rennes**
  Associate Professor, Department of Ecology — *2008–2024*
  Co-head of the Ecological Modeling Master's program
  Courses taught: Modelling in Ecology and Evolution, Epidemiological Modeling, Plant Disease Epidemiology (192h per year)
  Researcher associated with the Institute of Genetics, Environment and Plant Protection (IGEPP)

- **University of Alberta, Canada** — **Edmonton**
  Postdoctoral Researcher, Centre for Mathematical Biology — *2007–2008*
  Fellowship from the Pacific Institute for Mathematical Sciences

- **University of Nice** — **Nice**
  Teaching Assistant, Department of Mathematics — *2004-2007*
  Courses taught: Game Theory and Decision Theory (64h per year).

Education

- **Habilitation in Biology** — **Rennes**
  Univ. Rennes — *2017*
  Dissertation title: Modeling in ecology and evolutionary epidemiology of plant pathogens
- **Ph.D. in Mathematical Biology** — **Nice**
  Univ. Nice — *2007*
  Dissertation title: Dynamic Games in Behavioral Ecology
- **M.Sc. in Applied Mathematics** — **Nice**
  Univ. Nice — *2004*
- **Engineer in Telecommunications** — **Brest**
  Univ. Brest — *2003*

Scientific communications

Publications

5 selected publications from **48 articles** published in international peer-reviewed journals or books:

1. Tankam Chedjou, I., Montarry, J., Fournet, S., **Hamelin, F. M.** (2024). Combining Masculinizing Resistance, Rotation, and Biocontrol to Achieve Durable Suppression of the Potato Pale Cyst Nematode: A Model. *Evolutionary Applications*, 17(9), e70012
2. **Hamelin, F. M.**, Hilker, F. M., & Dumont, Y. (2023). Spatial spread of infectious diseases with conditional vector preferences. *Journal of Mathematical Biology*, 87(2), 38
3. Clin, P., Grognard, F., Mailleret, L., Val, F., Andrivon, D., **Hamelin, F.M.** (2021). Taking advantage of pathogen diversity and immune priming to minimize disease prevalence in host mixtures: a model.

Phytopathology, 111:1219–1227. *Best Student Paper Award 2021*

4. **Hamelin, F.M.**, Allen, L.J.S., Bokil, V.A., Gross, L.J., Hilker, F.M., Jeger, M.J., et al. (2019) Coinfections by noninteracting pathogens are not independent and require new tests of interaction. *PLoS Biology*, 17:e3000551
5. **Hamelin, F. M.**, Castel, M., Poggi, S., Andrivon, D., Mailleret, L. (2011). Seasonality and the evolutionary divergence of plant parasites. *Ecology*, 92:2159–2166. *Selected by* Faculty of 1000

Full publication list available at: `https://fmhamelin.github.io/home/publications/`

Conferences

More than 100 communications including more than 50 international conferences including **12 invitations**:

CMS Winter Meeting, Toronto, 2022 (invited in 2 sessions); Models in Evol. Biol., Marseille, 2020; Math. Biology Modeling Days of Besançon, 2018 (*Keynote speaker*), 2016. Emerging Trends in Applied Math., Perpignan, 2016; Models in Pop. Dynamics and Ecology, Leicester, 2010; Game Theory and Networks, Istanbul, 2009; Adaptive Dynamics of Insect Parasitoids, Paimpont, 2008; Int'l Symposium on Dynamic Games, Wroclaw, 2008 (*Best presentation among young participants*); Workshop Dynamics of Structured Pop. Banff, 2008; Workshop on Game Theory in Energy, Resources and Environment. Montreal, 2007.

International activities

- Editor for Phytopathology (*American Phytopathology Society*) since 2022
- Co-organized conferences:*Parasitoids*, Antibes, 2006; *ISDG*, Antibes, 2006; Biohasard, Rennes, 2019
- Co-organizer of a mini-symposium at the *CMPD5* conference, Florida, USA, 2019
- Co-organizer of a satellite event at ICPP 2023 in Lyon
- 4 Erasmus+ one-week teaching mobilities in 2017, 2018, 2022, and 2024 at the U. of Alberta (Canada)
- Invited 6 times at the National Institute for Math. and Biol. Synthesis (NIMBioS - Knoxville, TN, USA) between 2014 and 2019 to participate in a *Working Group on Multiscale Vectored Plant Viruses*
- More than 30 invited seminars including 20 abroad (Canada, USA, UK, Germany, Ireland, Taiwan)
- More than 130 peer-reviews: `https://www.webofscience.com/wos/author/record/188805`
- 3 Grant reviews (US-Israel in 2018; Israel in 2019; Poland in 2022)

Students, grants, and committees

- 3 postdocs: Hugo Martin (2022–2024), Israël Tankam (2023–2025), Yves Fotso (2023–2025)
- 4 PhD students: Magda Castel (2010-2013), Valentin Doli (2014-2017), Pauline Clin (2020-2023), Clément Monaury (2024-2027)
- 20 Master's students (11 M1, 9 M2)
- PI of an ANR project (2023-2027) Behavioral Epidemiology and Evolution of Plant Pathogens
- Co-PI of a Thomas Jefferson Fund project (2018-2021) with Pr. V.A. Bokil (Oregon State U., USA) Mathematical epidemiology of viruses coinfecting plants: Modeling, Analysis and Optimal Control Strategies
- 4 research grants from INRAE (Plant Health Division) & In charge of a WP in an ANR project
- 15 PhD defense committees including 8 as Reviewer (including Munich, Yaoundé, Osnabrück, Pretoria)
- 4 hiring committees for Assistant Professor positions (Rennes, Paris, Lyon, Lille)
- Hcéres evaluation committee of the Centre of Functional and Evolutionary Ecology (Montpellier), 2020
- Member of the Scientific Council of The Permanent Technical Committee for Plant Breeding (CTPS), 2024-2028
- Member (2012-2020) and Vice-President (2021-2025) of the National Commission of Professors Associated with the Ministry of Agriculture (CNECA)
- Member of an INRAE Specialized Scientific Commission (CSS) in Mathematics, Computer Sciences, Artificial Intelligence and Robotics (2024-2028)
- Member of the competition jury for the Doctoral School "Evolution, Ecosystems, Microbiology, Modeling" of U. Lyon (2023-2026)