

# 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

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- **L'Institut Agro** **Rennes**  
*Associate Professor, Department of Ecology* *2008–2023*  
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 at the Institute of Genetics, Environment and Plant Protection (IGEPP), specifically in the Demecology (Dynamics, Evolution, Modelling, Ecology) research group.
- **University of Alberta, Canada** **Edmonton**  
*Postdoctoral Researcher, Centre for Mathematical Biology* *2007–2008*  
Fellowship from the Pacific Institute for Mathematical Sciences (UMI CNRS).  
Supervisor: Mark A. Lewis.
- **University of Nice** **Nice**  
*Teaching Assistant, Department of Mathematics* *2004–2007*  
Courses taught: Game Theory and Decision Theory (64h per year).

## Education

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- **Habilitation in Biology** **Rennes**  
*Univ. Rennes* *2017*  
Modeling in ecology and evolutionary epidemiology of plant pathogens. Defense committee: Sylvain Gandon (CNRS, reviewer), Jean-Sébastien Pierre (Univ. Rennes), Virginie Ravigné (Cirad), Jacqui Shykoff (CNRS, reviewer), Aurélien Tellier (T.U. Munich, reviewer).
- **Ph.D. in Mathematical Biology** **Nice**  
*Univ. Nice* *2007*  
Dynamic Games in Behavioral Ecology. Defense committee: Jacques van Alphen (Univ. Amsterdam, reviewer), Pierre Cardaliaguet (Univ. Paris-Dauphine, reviewer), Michel De Lara (ENPC, reviewer), François Houllier (INRAE), Claude Lobry (Univ. Nice).  
Supervisors: Pierre Bernhard (Inria) and Éric Wajnberg (INRAE).
- **M.Sc. in Applied Mathematics** **Nice**  
*Univ. Nice* *2004*
- **Engineer in Telecommunications** **Brest**  
*Univ. Brest* *2003*

## Scientific communications

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### Publications.....

5 selected publications from **44 articles** published in international peer-reviewed journals or books:

1. Clin, P., Grogard, F., Andrivon, D., Mailleret, L., **Hamelin, F. M.** (2023). The proportion of resistant hosts in mixtures should be biased towards the resistance with the lowest breaking cost. *PLoS Computational Biology*, 19(5), e1011146.
2. Clin, P., Grogard, F., Andrivon, D., Mailleret, L., **Hamelin, F. M.** (2022). Host mixtures for plant disease control: Benefits from pathogen selection and immune priming. *Evolutionary Applications*, 15:967–975.
3. Clin, P., Grogard, 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 130 communications including more than 40 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

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- **Editor** for Phytopathology (*American Phytopathology Society*) since 2022
- **Co-organized conferences**: *Parasitoids*, Antibes, 2006; *ISDG*, Antibes, 2006; Biohazard, 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
- **3 Erasmus+ one-week teaching mobilities** in 2017, 2018, and 2022 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 19 abroad (Canada, USA, UK, Germany, Ireland, Taiwan)
- **More than 120 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

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- **3 postdocs**: Hugo Martin (2022–2024), Israël Tankam Chedjou (2023–2025), Yves Fotso (2023–2025)
- **3 PhD students**: Magda Castel (2010–2013), Valentin Doli (2014–2017) and Pauline Clin (2020–2023)
- **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)
- **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)