

# Marie-Agnès Jacques

# Curriculum vitae

Institute of Research in Horticulture and Seeds

INRAE

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## Appointments

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From Jan 2022: **Director** of the IRHS (Institute of Research in Horticulture and Seeds, joint unit under the auspices of INRAE, Angers Univ. and l'Institut Agro, 265 members)

1998-present: **Senior scientist** at INRAE: Director of Research working at the IRHS Angers France.

**Ecology, evolution, mechanisms of host colonization, and emergence of bacterial plant pathogens** (*Xanthomonas* spp., *Xylella fastidiosa*, *Clavibacter michiganensis*)

2019 - 2021: **Deputy Director** of the IRHS

2017- 2021: **Director** of the Federative Structure of Research in Plant Quality and Health (9 research units)

2012-2021: Emersys **group leader** (19 permanent positions)

1995-1998: **Scientist**, INRA, Plant Pathology Unit, Avignon, France

Epidemiology of ready-to-use leafy vegetables decay

1994-1995: **Postdoctoral fellow**, IVEM, Oxford, UK

Genetic transfers among bacteria in heterogeneous biofilms in the phyllosphere

1990-1994: **PhD student**, INRA, Plant Pathology Unit, Avignon, France

Quantitative ecology and physiology of the epiphytic bacterial community

## Education

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**Authority to Supervise Researches** (HDR) in Plant Pathology, 2010, Angers University, France

**PhD**: 1994 – Plant pathology, Sciences University, Paris XI, Orsay, France

**MSc**: 1990 – Plant pathology, Sciences University, Nantes, France

**Engineer in Agronomy**: 1989 ENSFA, Rennes, France

## Expertise

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- 35 years of research on plant pathogenic bacteria, teaching and training activities
- 27 research grants with public and private research organizations at national and EU levels
- 113 scientific publications in international peer-reviewed journals; 10 book chapters, >100 communications in national and international congresses, 20 invited talks in international congresses
- Senior Editor for Molecular Plant Pathology journal appointed 2015-2020
- Member of the Plant Health Panel of the European Food Safety Authority (EFSA, 2018-2021)
- Member of various Working Groups as an external expert to prepare scientific opinions on the categorization of quarantine plant pathogenic bacteria, on the risk posed by STEC in sprouts and seeds for EFSA and ANSES.
- Co-manager of the Working Group on *Xylella fastidiosa* Monitoring in the frame of the French Plant epidemiosurveillance Platform (from 2022)
- Nominated member of the specialized scientific commission Biology and Health at IRD (2016-2020): Rapporteur for the assessments of scientists and in recruitment contests
- Member of scientific committees for organizing various congresses (ICPP2023, Xylella conferences 2017, 2019; ICPPB up to the 2014 edition, French plant bacteriologists-Aussois meetings)
- Reviewer for international peer-reviewed journals and grant proposals for various agencies
- Reviewer of 6 capacities to supervise research exam (HDR)
- Supervision of 15 PhD students
- Member of 24 PhD thesis defenses (international and national) and member of 7 PhD student individual follow-up committees
- Member of committees for the recruitment of 20 researchers, associate professor, professors, engineer and associate engineers
- External member of 3 Doctoral school committees for PhD candidate selection

- In charge of the organization of the scientific seminars for INRAE research center and federative structure (1998- 2021).
- Coordinator of the French Network on Xanthomonads gathering all French teams working on *Xanthomonas* and *Xylella* (2010-2020, <https://www.reseau-xantho.org/>)
- H index: Google Scholar: 46 (26/02/2025)

### Participations in expertise reports

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- 4 publications in EFSA Journal as chairwoman of the dedicated working groups
- 15 publications in EFSA Journal as effective member of dedicated working groups
- 120 publications in EFSA Journal since July 2018, as a member of Plant Health Panel

### My 10 most cited papers and 10 selected from the two last years

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- Shade A., Jacques M-A, Barret M. 2017. Ecological patterns of seed microbiome diversity, transmission, and assembly. *Current Opinion in Microbiology* 37:15–22 <https://doi.org/10.1016/j.mib.2017.03.010> (400 citations)
  - Barret M, ..., Jacques M-A, 2015. Emergence shapes the structure of the seed-microbiota. *Applied and Environmental Microbiology* 81:1257–1266 <https://doi.org/10.1128/AEM.03722-14> (367 citations)
  - Vayssier-Taussat M, ..., M-A Jacques, et al. 2014. Shifting the paradigm from pathogens to pathobiome: new concepts in the light of meta-omics. *Frontiers in Cellular And Infection Microbiology*. 4:29 <https://doi.org/10.3389/fcimb.2014.00029> (347 citations)
  - Morris C.E., J.M. Monier et M.-A. Jacques. 1997. Methods for observing microbial biofilms directly on leaf surfaces and recovering them for isolation of culturable microorganisms. *Applied and Environmental Microbiology* 63:1570-1576 (317 citations)
  - Pieretti I., ..., M.-A. Jacques, et al. 2009. The complete genome sequence of *Xanthomonas albilineans* provides new insights into the reductive genome evolution of the xylem-limited Xanthomonadaceae. *BMC Genomics* 10:616 [doi:10.1186/1471-2164-10-616](https://doi.org/10.1186/1471-2164-10-616) (216 citations)
  - Rousseau C., ..., Jacques M-A., Boureau T. 2013. High throughput quantitative phenotyping of plant resistance using chlorophyll fluorescence image analysis. *Plant Methods* 9:17 <http://www.plantmethods.com/content/9/1/17> (209 citations)
  - Jacques M-A, et al. 2016. Using Ecology, Physiology, and Genomics to Understand Host Specificity in *Xanthomonas*. *Annu. Rev. Phytopathol.* 2016. 54: 163-187 <https://doi.org/10.1146/annurev-phyto-080615-100147> (200 citations)
  - Morris C.E., J.M. Monier et M.-A. Jacques. 1998. A technique to quantify the population size and composition of the biofilm component in communities of bacteria in the phyllosphere. *Applied and Environmental Microbiology* 64:4789-4795. (173 citations)
  - Klaedtke S, Jacques MA, et al. 2016. Terroir is a key driver of seed-associated microbial assemblages. *Environmental Microbiology* 18:1792-1804 [doi: 10.1111/1462-2920.12977](https://doi.org/10.1111/1462-2920.12977). (161 citations)
  - Darsonval A., ..., M.-A. Jacques. 2009. Adhesion and fitness in the bean phyllosphere and transmission to seeds of *Xanthomonas fuscans* subsp. *fuscans*. *Molecular Plant-Microbes Interactions* 22:747-757 [doi:10.1094 / MPMI -22-6-0747](https://doi.org/10.1094 / MPMI -22-6-0747) (157 citations)
  - Briand M, ..., M-A Jacques, et al. 2024. Emergence and spread of *Mycobacterium ulcerans* at different geographic scales. *Microbiology Spectrum* 12(4): e03827-23 <https://doi.org/10.1128/spectrum.03827-23>
  - Koebnik R, ..., M-A Jacques, et al. 2024. Celebrating the 20th anniversary of the first *Xanthomonas* genome sequences – how genomics revolutionized taxonomy, provided insight into the emergence of pathogenic bacteria, enabled new fundamental discoveries and helped developing novel control measures – a perspective from the French network on Xanthomonads. *PCI Infections*, 4:e19 <https://doi.org/10.24072/pci.infections.100193>
  - Monnens TQ, ... M-A Jacques, et al. 2024. Comparative transcriptomics reveals a highly polymorphic *Xanthomonas* HrpG virulence regulon. *BMC Genomics* 25:777 <https://doi.org/10.1186/s12864-024-10684-6>
  - Pena MM, ..., M-A Jacques, N Potnis. 2024. Genetic and Functional Diversity Help Explain Pathogenic, Weakly Pathogenic, and Commensal Lifestyles in the Genus *Xanthomonas*. *Genome Biol. Evol.* 16(4) <https://doi.org/10.1093/gbe/evae074>
  - Sadhukhan S, M-A Jacques, N Potnis. 2024. Influence of Co-occurring Weakly Pathogenic Bacterial Species on Bacterial Spot Disease Dynamics on Tomato. *Plant Disease* 108:190-199 <https://doi.org/10.1094/PDIS-05-23-0837-RE>
  - Soubeyrand S, ..., M-A Jacques, et al. 2024. Building integrated plant health surveillance: a proactive research agenda for anticipating and mitigating disease and pest emergence. *CABI Agriculture and Bioscience* 5:72. <https://doi.org/10.1186/s43170-024-00273-8>
  - Alvandi H, ..., M-A Jacques, et al. 2023. Pathovar-specific PCR Method for detection and identification of *Xanthomonas translucens* pv. *Undulosa*. *Plant Disease* 107:2279-2287, <https://doi.org/10.1094/PDIS-11-22-2677-SR>
  - Dupas E, Durand K, Jacques M-A. 2023. Analysis of the worldwide diversity of *Xanthomonas* 1 *hortorum* pv. *carotae*, the agent of bacterial blight of carrot, 2 reveals two distinct populations. *PhytoFrontiers* 4:159-171 <https://doi.org/10.1094/PHYTOFR-04-23-0055-R> ; bioRxiv <https://doi.org/10.1101/2023.04.21.537781>
  - Dupas E, ..., M-A Jacques. 2023. Suspicions of two bridgehead invasions of *Xylella fastidiosa* subsp. *multiplex* in France. *Communications Biology* 6:103. <https://doi.org/10.1038/s42003-023-04499-6> ; bioRxiv preprint <https://doi.org/10.1101/2022.02.11.480026>
  - Foucher J., Ruh M., Briand M., Prévieux A., Barbazange F., Boureau T., Jacques M-A., Chen NWG. 2022. Improving common bacterial blight phenotyping by using rub-inoculation and machine learning: cheaper, better, faster, stronger. *Phytopathology* 112:691-699. <https://doi.org/10.1094/PHYTO-04-21-0129-R> ; <https://hal.inrae.fr/hal-03345026>
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