NAME:

Joana Falcao Salles

INSTITUTION / FUNCTION:

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Short Professional Biography:

Current Position: Professor in Microbial Community Ecology

Current of Previous Postdoc(s): Universite de Lyon 1, France (2005-2008)

Studies:

MSc. in Plant Production at the Federal Rural University of Rio de Janeiro (Brazil)

PhD. in Microbial Ecology at the University of Leiden (Netherlands)

Research interests

Joana Falcao Salles is a full professor in Microbial Community Ecology at the Groningen Institute for Evolutionary Life Sciences (GELIFES) at the University of Groningen, the Netherlands. She is also a member of the executive board of the International Society for Microbial Ecology (ISME) since 2020 and an Honorary Professor at the University of Nanjing, China. Her research line uses ecological and evolutionary theory to unravel the causes and the consequences of free-living and host-associated microbial communities. Central questions are: How are microbiomes formed? What are the processes and mechanisms leading to the development of microbial communities? What are the consequences of microbial diversity on the functioning of the environment/host? She addresses these topics in a range of habitats (agricultural soil, salt marshes soils) and hosts (plants, arthropods, birds, mice, and humans) by combining experimental procedures (field, microcosm, mesocosm, manipulative experiments), modeling, microbiological and molecular techniques, metagenomic and bioinformatic approaches, to address both fundamental and applied questions (agriculture, bio-based economy). She has coordinated several projects and published over 100 papers in peer-reviewed journals.

Relevant Publications:

1. Li Y, Deng X, Zhang N, Li R, Shen Q, **Salles JF**. **2023**. Rhizosphere suppression hinders antibiotic resistance gene (ARG) spread under bacterial invasion. **One Health**, Volume 16, 100481

2. Mawarda PC, Le Roux X, Acosta M, van Elsas JD, **Salles JF**. **2022**. The Impact of Protozoa Addition on the Survivability of Bacillus inoculants and Soil Microbiome Dynamics. **ISME communications,** 2:82.
3. Jia X, Dini-Andreote F, **Salles JF**. **2022**. Unraveling the interplay of ecological processes shaping the bacterial rare biosphere. **ISME communications,** 2:96.
4. Deng X, Zhang N, Li Y, Zhu C, Qu B, Liu H, Li R, Bai Y, Shen Q, **Salles JF**. **2022**. Bio-organic soil amendment promotes the suppression of *Ralstonia solanacearum* by inducing changes in the functionality and composition of rhizosphere bacterial communities. **New Phytologist**, 235:1558-1574
5. Mawarda PC, Lakke SL, van Elsas JD, **Salles JF**. **2022**. Temporal Dynamics of Soil Bacterial Community Following Bacillus Invasion. **iScience**, 25: 104185.
6. Liu X, Le Roux X, **Salles JF**. **2022**. Functional interactions behind microbial invasion and their consequence for soil ecosystem processes. **iScience**, 25: 10382.
7. Deng X, Zhang N, Shen Z, Zhu C, Liu H, Xu Z, Li R, Shen Q, **Salles JF**. **2021**. Soil microbiome manipulation triggers direct and possible indirect suppression against *Ralstonia solanacearum* and *Fusarium oxysporum*. **Nature Biofilms**, 7, 1, 33.
8. Pratama AA, Terpstra J, de Oliveria ALM, **Salles, JF**. **2020.** The role of rhizosphere bacteriophages on plant health. **Trends in Microbiology**, 28:709-718
9. Xing J, Jia X, **Salles JF**, Xu J. **2020**. The legacy of bacterial invasions on soil native communities. **Environmental Microbiology,** 23: 669-681. DOI: 10.1111/1462-2920.15086
10. Mawarda PC, Le Roux X, van Elsas JD, **Salles JF**. **2020**. Deliberate introduction of invisible invaders: impact on belowground microbial communities. **Soil Biology and Biochemistry,** 148:107874
11. Jia X, Dini-Andreoete F and **Salles JF**. **2018**. Community Assembly Processes of the Rare Biosphere. **Trends in Microbiology**, 26:738-747
12. Dini-Andreote F, van Elsas JD, Olff H, **Salles JF**. **2018**. Transition in land colonization reflects a multi-trait switch in microbiomes. **Nature Scientific Reports**, 8:9451
13. Mallon CA, Le Roux X, Van Doorn GS, Dini-Andreote F, Poly F, **Salles JF**. **2018**. The impact of failure: unsuccessful bacterial invasions steer the soil microbial community away from the invader's niche. **ISMEj**, 12:728-741. DOI: 10.1038/s41396-017-0003-y
14. Dini-Andreote F, Pylro VS, Baldrian P, van Elsas JD, **Salles JF. 2016**. Ecological succession reveals signatures of marine–terrestrial transition in salt marsh fungal communities, **ISME journal**, 10:1984–1997
15. Mallon CA, van Elsas JD, **Salles JF. 2015**. An Ecological Framework for Microbial Invasions: Examining the Phases of Invasion and the Mechanisms Driving Invasion Resistance. **Trends in Microbiology**, 23:719-729.
16. Dini-Andreote F, Stegen J, van Elsas JD, **Salles JF. 2015**. Disentangling mechanisms that mediate the balance between stochastic and deterministic processes in microbial succession. **PNAS**, 112: E1326-E1332. **Faculty of 1000 recommendation**