

## Stéphane PESCE - 44 years old

Senior Scientist/Director of Research in Microbial Ecotoxicology

Group leader "Aquatic Microbial Ecotoxicology" (EMA) - <https://ema.lyon-grenoble.hub.inrae.fr>

INRAE - RiverLy Research Unit – Villeurbanne, FRANCE

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## Degrees/Education

**2013** HDR (French habilitation for research direction) in Microbial Ecotoxicology  
**2006** PhD in Microbial Ecology - Univ. Clermont Auvergne (France)

## Research positions

**2019-** Director of Research - INRAE, Villeurbanne France  
**2017** Guest Researcher - Ecotox Centre, EPFL, Lausanne, Switzerland (7 Months)  
**2009-18** Normal Class Researcher – IRSTEA, Villeurbanne France  
**2007-09** Post-doctoral position – IRSTEA, Villeurbanne France

## Research topic

**Aquatic microbial ecotoxicology:** Our Research Group combines microcosm experiments and in situ surveys to provide knowledge and develop innovative tools and approaches to:

- Describe how micropollutants affect the vulnerability and resilience of benthic microbial biodiversity and associated ecological functions in a context of multiple stresses,
- Evaluate the ecological quality of contaminated aquatic ecosystems through the study of natural periphytic and sediment microbial communities.

## Scientific expertise and responsibilities (selected examples)

**2020-23** National co-coordinator of the expertise on the effects of pesticides on biodiversity and ecosystems requested by three French Ministries (Agriculture, Ecological Transition, and Research)  
**2022-** Vice-President of the **Rovaltain Scientific Foundation** for research in Health and Environment (<http://www.fcsrovaltain.org/>).  
**2013-** Co-creator and co-responsible of the international network on microbial ecotoxicology >250 members from 44 countries (Ecotoxicomic; <https://ecotoxicomic.org/>)  
**2016-23** Editorial Activity: Guest Editor of Special issues related to Microbial Ecotoxicology in *Front. Microbiol.*, *Front. Environ. Sci.* and *Environ. Sci. Pollut. Res.*  
**2015-20** Member of the Scientific Committee of the Doctorate School « Ecology-Evolution-Microbiology-Modelling », University of Lyon, France  
**2013-** Main Organizer of >10 international conferences, symposia and workshops  
**2010-** Member of HDR (2) and PhD (11) Thesis committees and 12 PhD-Thesis steering committees  
**2007-** Peer-review of >70 scientific articles for >20 international journals

## Coordination of multi-partner research programmes (current and recent projects)

**2024-28** MSCA-Doctoral Networks PHARM-ERA: Improving monitoring and environmental risk assessment of pharmaceuticals, antimicrobial resistance and pathogens from terrestrial to aquatic environment. Funding: Horizon-Europe (2657.8 k€)  
**2023-27** DIAGNO-PICT: Potential of PICT approaches, combined with metabarcoding (microbial DNA) and chemical fingerprinting, as biomonitoring and diagnostic tools of chemical pressure in polluted hydrosystems. Funding: French Office for Biodiversity - OFB (374.9 k€)  
**2023-27** PHARM-ONE-HEALTH: Exposure and adaptation of microbial communities to pharmaceutical substances and microbiological agents in aquatic environments: Implications for the development and dissemination of antibiotic resistance determinants and pathogens. Funding: French Agency for Food, Environmental and Occupational Health & Safety – ANSES (199.9 k€)  
**2021-23** PHARMATOX: Temporal and spatial variation in pharmaceutical concentrations in urban and agricultural stream: resulting effects on periphytic and sediment microbial communities. Funding: RM&C Water Agency (60.3 k€)  
**2018-20** PERSORESTO: Efficiency and social perception of the restoration of the Tillet River and of the water quality of the Bourget Lake. Funding: RM&C Water Agency (46.5 k€)  
**2017-19** COMMUSED: Assessment of benthic microbial and invertebrate communities to evaluate the ecological quality of polluted rivers. Funding: RM&C Water Agency (38.0 k€)  
**2017-18** SANO-FILMS: Molecular and functional study of microbial biofilms to assess ecotoxicological effects of pharmaceutical industry effluents. Funding: SANOFI (151.2 k€)  
**2017-18** SEDIPICT: Validation and application of Pollution Induced Community Tolerance (PICT) measurement to evaluate in situ effects of pollutants on sediment microbial communities. Funding: French Agency for Biodiversity – AFB (99.7 k€)  
**2016-18** SEDICOMMUTOX: French-Swiss project to develop ecotoxicological tools at community level to assess the ecological quality of contaminated sediments. Funding: French Auvergne-Rhône-Alpes Region (35.0 k€)

## Scientific valorization

<https://orcid.org/0000-0001-7242-9461>

**Peer-reviewed international publications:** 64 published articles - 3 book chapters - coordination of one book edition

**National publications:** >10 published articles and book chapters – Coordination of one book edition

### Conference and workshop contributions

- >15 guest conferences/keynotes in international and national seminars and congresses
- >20 conferences in international seminar/congresses/workshop
- >40 conferences in national congresses/workshop