



# A MSCA European Doctoral Network to improve monitoring and environmental risk assessment of pharmaceuticals, antimicrobial resistance and pathogens from terrestrial to aquatic environments

## 2024-2028

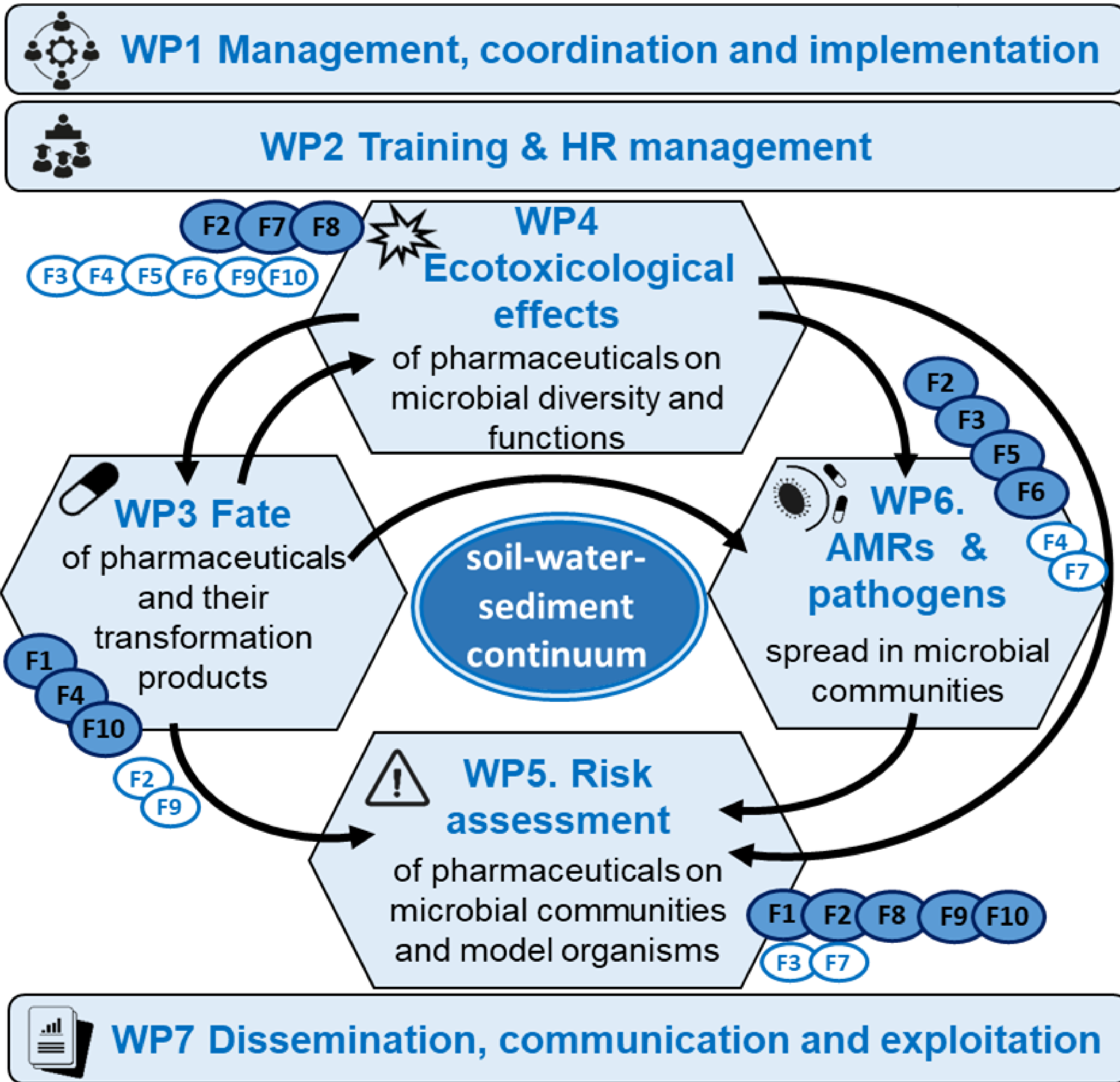
### 8 countries



### 7 academic partners



### 7 non-academic partners

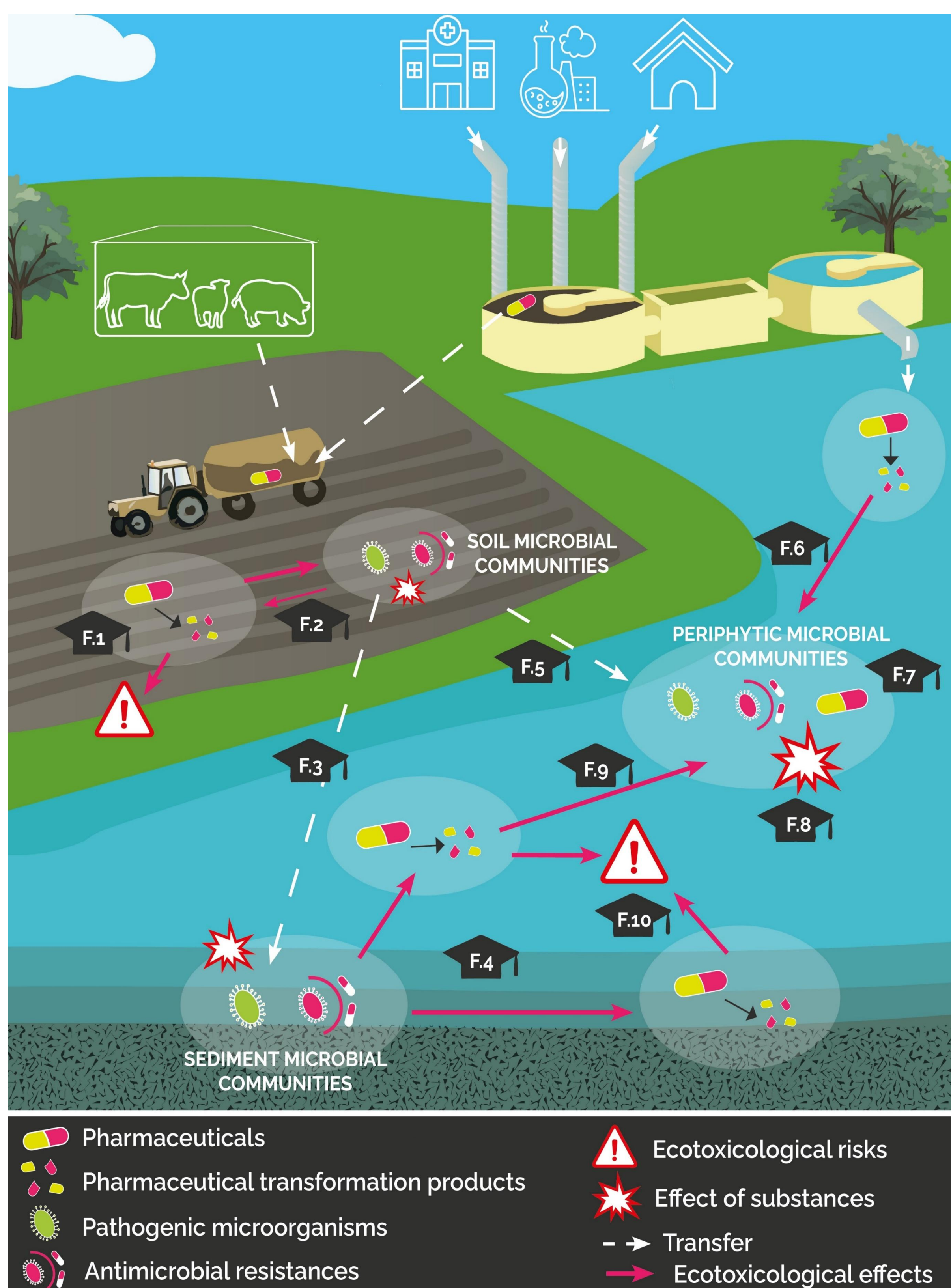


### 3 main research objectives

- ✓ **Assess and predict the fate of pharmaceuticals (PhACs) and their transformation products (TPs) along the soil-water-sediment continuum**
- ✓ **Investigate the ecotoxicological effects & environmental risks of PhACs and their TPs on soil and aquatic ecosystems with a focus on microbial communities**
- ✓ **Determine the main drivers of antimicrobial resistance (AMR) and pathogens spread along the soil-water-sediment continuum with a focus on the role of microbial diversity and environmental continuum**

### International, interdisciplinary & intersectoral

doctoral projects covering scientific disciplines including environmental and analytical chemistry, microbial ecology and ecotoxicology, molecular biology (incl. multi-omics approaches) and chemical fate and effect modelling.



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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>F1</b></p> <p><b>Venetios Michelioudakis</b><br/>Assessing and predicting fate PhACs &amp; TPs in soils &amp; towards the aquatic systems</p>                     | <p><b>F2</b></p> <p><b>Chloën Lhomme</b><br/>Influence of PhACs exposure on microbial functions, diversity &amp; AMR development &amp; dissemination in soil</p>                  | <p><b>F3</b></p> <p><b>Ioanna Gkoni</b><br/>Incidence of PhACs &amp; microbial coalescence on sediment microbial communities &amp; the occurrence of bacterial pathogens disseminating AMR</p>     |
| <p><b>F4</b></p> <p><b>Ana Luisa Mejía Camacho</b><br/>Context-dependency on the fate &amp; ecotoxicological effects of antibiotics &amp; AMR on river sediment</p>     | <p><b>F5</b></p> <p><b>Sofia Agosti</b><br/>Dissemination routes of AMR &amp; pathogens among terrestrial &amp; freshwater ecosystems in agriurban catchments</p>                 | <p><b>F6</b></p> <p><b>David Calvo Mora</b><br/>Influence of colonizing substrata on the dynamics of AMR &amp; pathogens in fluvial ecosystems</p>                                                 |
| <p><b>F7</b></p> <p><b>Louis Susset</b><br/>Molecular &amp; phenotypic thresholds of antibiotics to protect aquatic microbial community structure &amp; functioning</p> | <p><b>F8</b></p> <p><b>Zahrasadat Alavikakhi</b><br/>Kinetic of metabolomic fingerprints of periphyton exposed to PhACs : towards the discovery of early molecular biomarkers</p> | <p><b>F9</b></p> <p><b>Galib Asadulla Hil</b><br/>Effect Directed Analysis on microbial communities as indicators of chemical &amp; ecotoxicological quality status of the aquatic environment</p> |
| <p><b>F10</b></p> <p><b>Alejandra Pérez Vázquez</b> : Assessment and prediction of the toxicity of pharmaceuticals on surface water and sediment model organisms</p>    |                                                                                                                                                                                   |                                                                                                                                                                                                    |

#### Coordination team contact :

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