

The [ECOSPHERE research group](#) aims to study aquatic and valley ecosystems that are continuously challenged by natural and anthropogenic stressors. The research focuses on acquiring fundamental and applied knowledge at different levels of structural and functional organisation in order to underpin environmental management decisions.

MASTER THESIS SUBJECT 2024

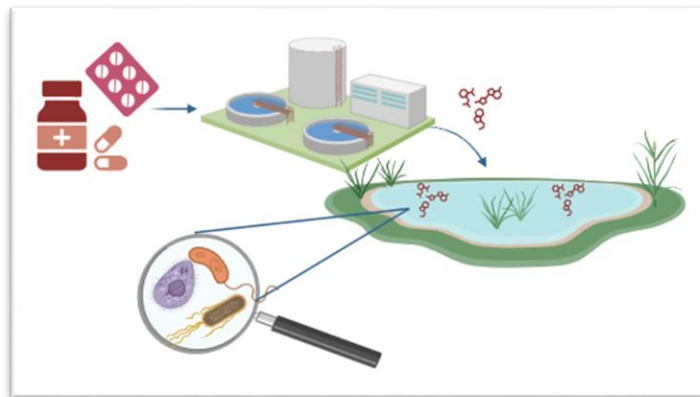
Mixture toxicity of psychoactive drugs and their transformation products on single-celled model organisms

Research group: ECOSPHERE

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Psychoactive drugs in the aquatic environment and their potential toxicity to microorganisms

Summary

Venlafaxine (antidepressant) and tramadol (opioid) have been detected at relatively high concentrations (0,8 – 2,5 µg/L) in wastewater effluents in Belgium. The potential toxicity of these psychoactive drugs and their metabolic transformation products on microorganisms in the aquatic environment has not been extensively studied. In this project, mode-of-action assays will be conducted for the acute toxicity assessment of the individual compounds, mixtures, wastewater samples, and exposed passive sampling sorbents using *Tetrahymena thermophila*, *Escherischia coli*, *Salmonella typhimurium* and *Aliivibrio fischeri* as test organisms.

- This topic mostly contains literature study, lab work, field work, experimental work, GIS, numerical modelling, other:
- Possession of driver's license B is needed, recommended, not needed
- Possession of certificates needed: FELASA C, other: