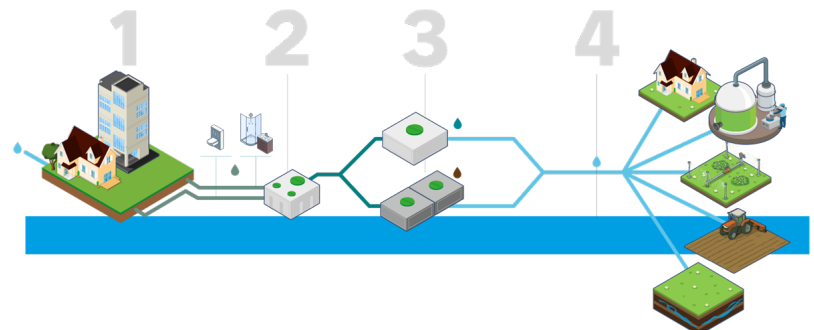


Decentralised wastewater treatment for water reuse

Mentor: Nassim AIT MOUHEB (INRAE, UMR G-EAU)

CONTEXT

- In collaboration between INRAE and Premier Tech compagny, Ademe AquaNova project concerns the decentralised wastewater treatment scheme (DWT) (covering 20 % of the population in France) for reuse treated wastewater (REUT) for domestic purposes on a semi-collective scale.
- AquaNova will contribute to the French Water Plan (1,000 REUT projects by 2028) and to the protection of water bodies, natural habitats and human health.
- It focuses on improving advanced wastewater treatment processes to support the safe development of REUT with the integrated risk management promoted by the WHO.



SCIENTIFIC OBJECTIVES

- For REUT, this research aims to **improve our understanding of wastewater disinfection by electro-oxidation**, suitable for agricultural irrigation.
- In addition, based on a selection of crops recommended for the DWT REUT, we will evaluate at the Murviel Les Montpellier site the **NPK nutrient inputs following the pilot treatment and their agronomic impact on plant growth and soil health**.

REQUIRED PROFILE

- MSc student in Environmental Sciences, Agronomy, Water Sciences
- Strong interest in lab work and field experimental water quality analysis (pathogens and physico-chemical parameters)
- Good command of scientific and technical English
- Curious, rigorous, and motivated
- B2 driving license

THE MISSION

- Review the scientific literature on electro-oxidation treatment and REUT agronomic impacts.
- Experimentation and validation:** conducting water quality laboratory analysis and agronomic REUT platform experiments.
- Analyze the data collected and write progress reports.
- Regular missions to carry out experiments at the Murviel-les-Montpellier platform.**

REFERENCES

<https://bibliaire.ademe.fr/societe-et-politiques-publiques/9057-aquanova-assainissement-decentralise-autonome-durable-et-reutilisation-de-l-eau-traitee.html>
Ait-Mouheb, N., Mange, A., Froment, G., Lequette, K., Bru-Adan, V., Maihol, J. C., ... & Wery, N. (2022). Effect of untreated or reclaimed wastewater drip-irrigation for lettuces and leeks on yield, soil and fecal indicators. *Resources, Environment and Sustainability*, 8, 100053.

THE RESEARCH UNIT: G-EAU

- G-EAU is an interdisciplinary research unit located in the North of Montpellier at the Agropolis campus
- It unites both social and natural scientists interested in the study of water - from hydrogeologists and remote sensing experts to human geographers and sociohydrologists
- Students will be able to integrate themselves into a rich and welcoming environment of scientific diversity. Weekly events include the Friday discovery seminar series (Vendredi Découverte), and the communal coffee social every Tuesday.

