

## Greenhouse gas dynamics from agricultural ditches – ecological, biogeochemical and microbial insights

For a new, unique project I am looking for an enthusiastic, motivated MSc student that is curious to understand how agricultural ditches contribute to the emission natural greenhouse gas to the atmosphere. Agricultural ditches, that are often eutrophic, can be a major source of the natural greenhouse gas emissions to the atmosphere. However, little is known about the a-biotic and biotic variables influencing these greenhouse gas emissions. Variables that in other aquatic ecosystems are known to alter greenhouse gas emissions are for instance: macrophyte (plant) occurrence and coverage, organic matter availability, carbon (organic/inorganic) availability, sediment thickness, shore management, nutrient runoff, oxygen availability, macrofauna abundancy but also, the microbial community composition responsible for greenhouse gas production and oxidation.

In this project you will be identifying what are the major drivers from greenhouse gas emissions from agricultural ditches and look if there is spatial variation within the ditch network. You will learn how to quantify greenhouse gas emissions (diffusive, ebullitive) and how to measure a wide range of potential drivers. You will furthermore unravel how shore management and ditch management alter the greenhouse gas emissions, and learn how to conduct sediment incubations (to measure methane production and oxidation potentials).

If you are interested in participating in this project, please contact me through: [quinten.struik2@ru.nl](mailto:quinten.struik2@ru.nl)

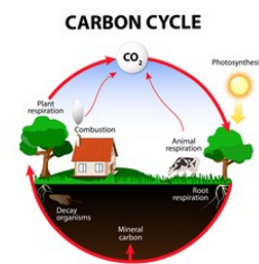
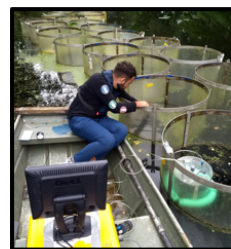
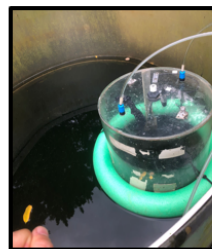
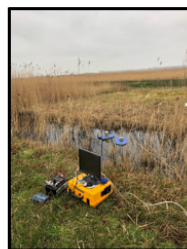
Starting period: Nov 22 – Jan 23. Starting date is flexible!

## Interested in working with greenhouse gas emissions?

I'm looking for enthusiastic student(s)



- Are you:**
- Interested in greenhouse gas emissions from ditches?
  - Interested in the C-cycle
  - Interested in the link between CH<sub>4</sub> emissions and the responsible microbial community?
  - And not afraid to get dirty during field work?
- Contact me: [quinten.struik2@ru.nl](mailto:quinten.struik2@ru.nl)**



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