

# Nitrous oxide emission peaks and distribution of nitrous oxide in the soil profile during a rain event: a soil column experiment

Line Vinther Hansen

Co-authors: Andreas Brændholt, Azeem Tariq, Lars Stoumann Jensen, and Sander Bruun

Department of Plant and Environmental Sciences

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UNIVERSITY OF COPENHAGEN



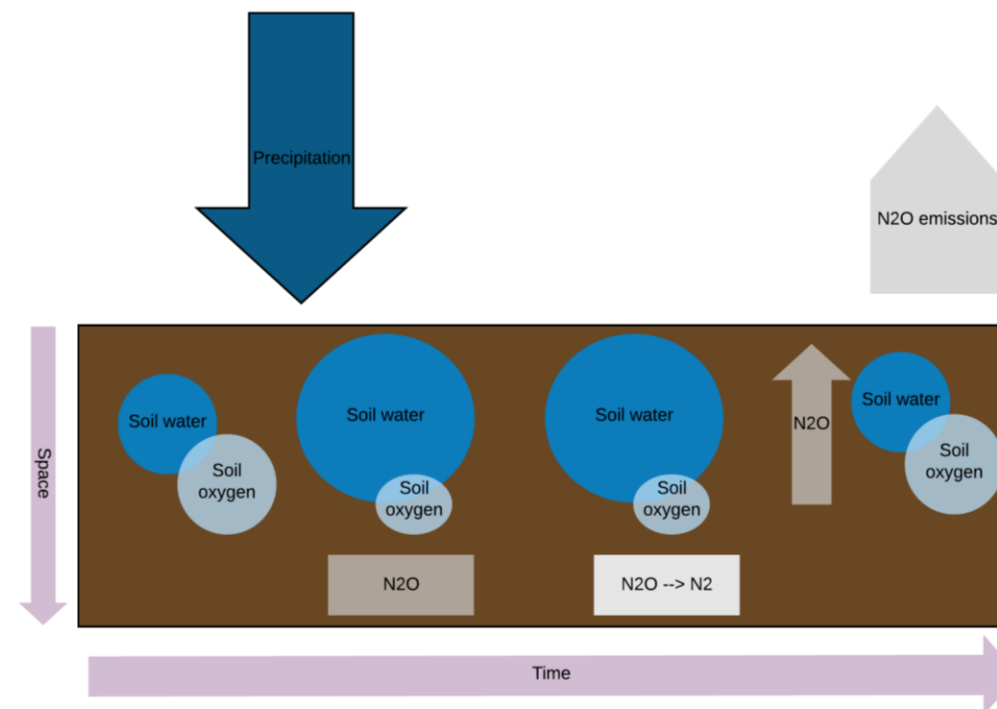
# What are we investigating?



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## Hot moments – emissions after precipitation events



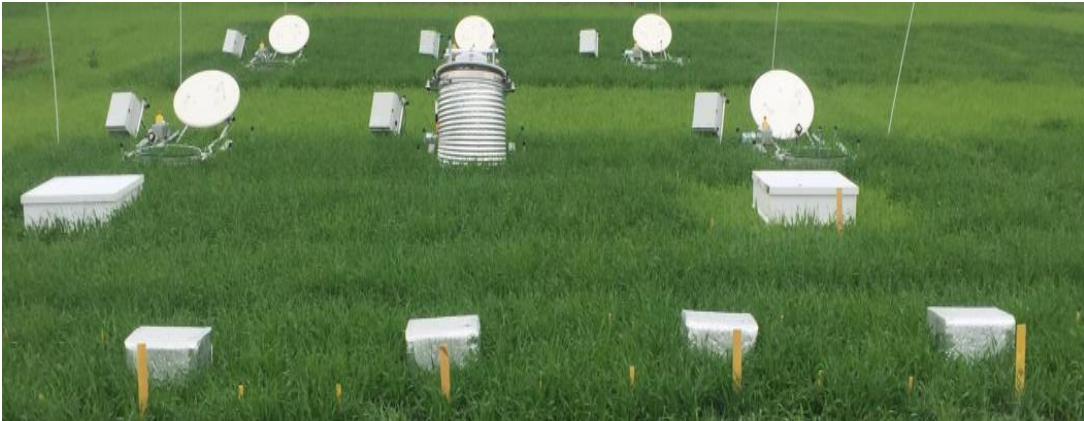
# Why do we want to investigate it?



Abundance of measurements of N<sub>2</sub>O  
fluxes from the soil surface



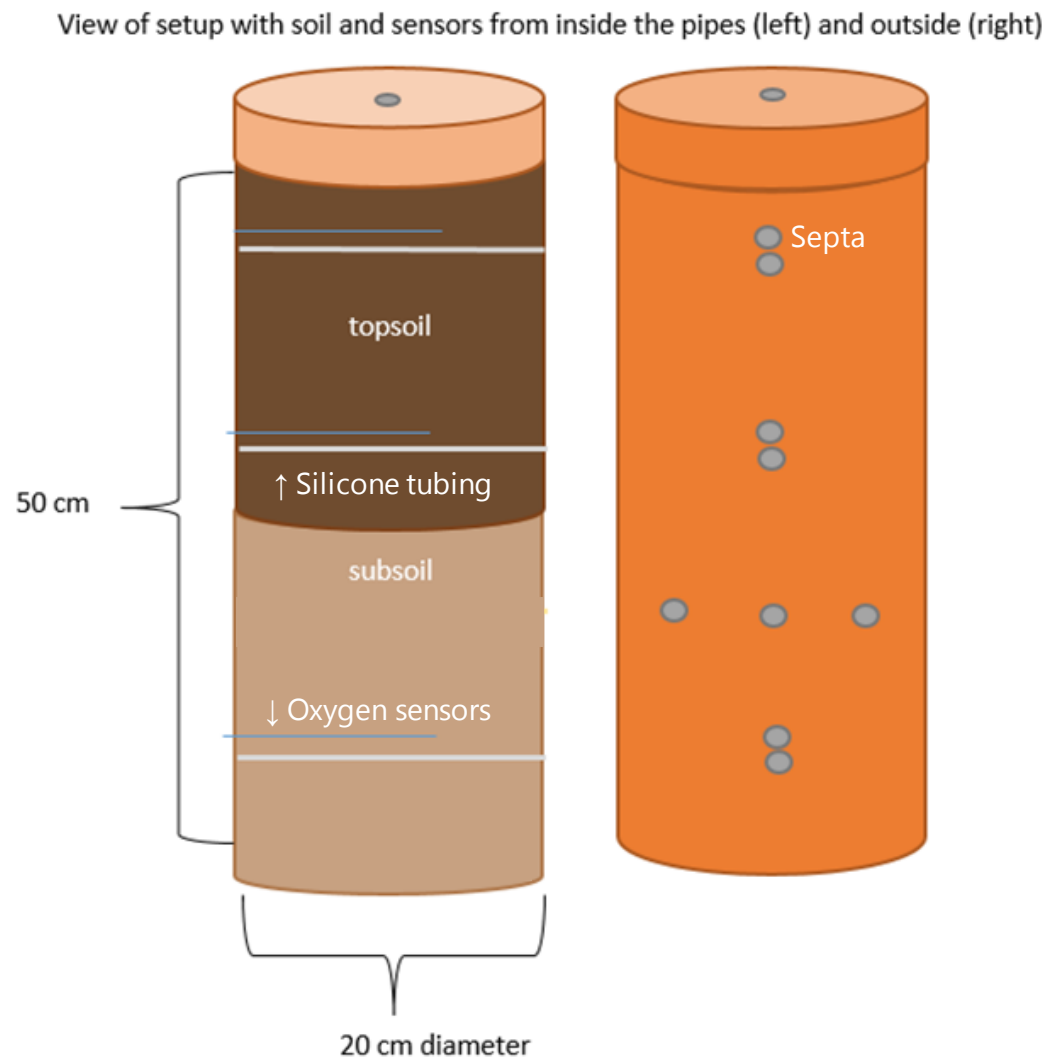
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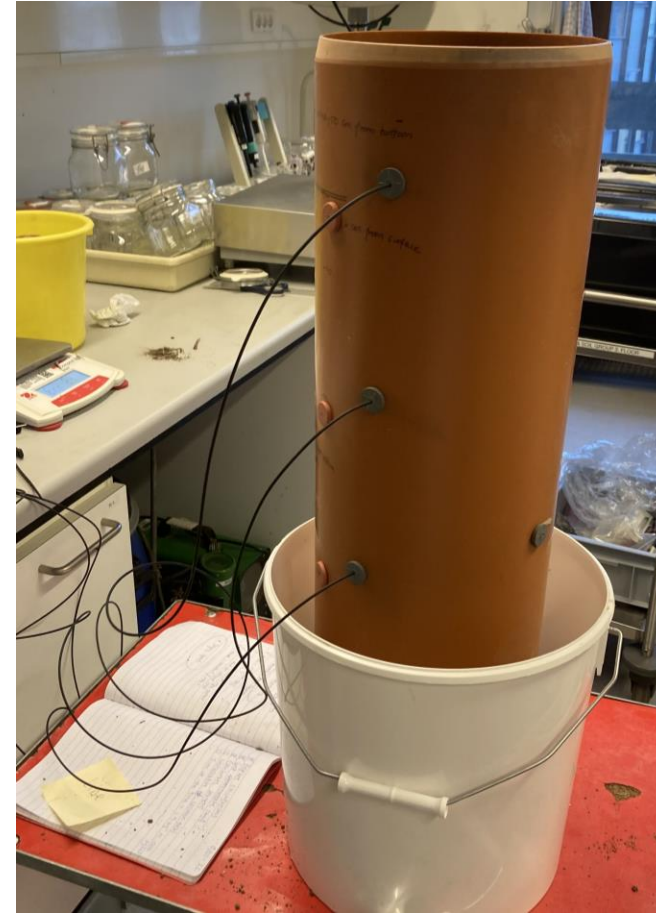
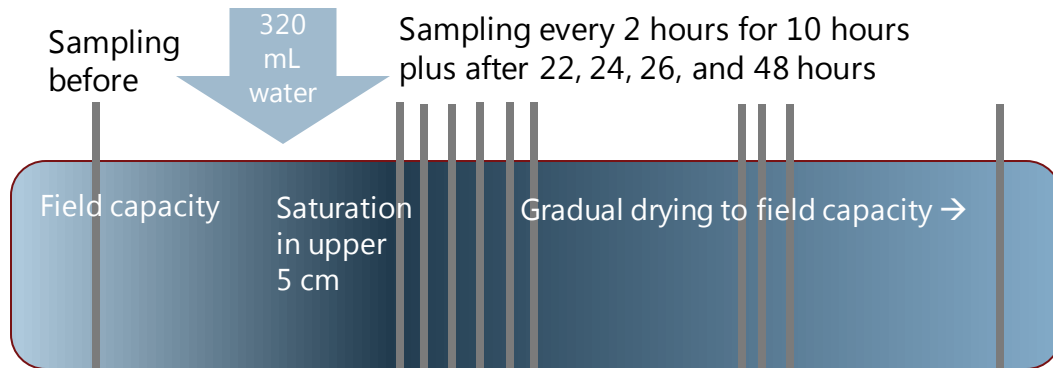
But how are the dynamics belowground? Can we measure from a larger subsurface area than usual gas tip probes?

# How are we conducting the experiment?



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- Gas samples from closed chamber on surface (4 samples (t0, t20, t40, t60 minutes))
- Gas samples in 15, 30 and 45 cm depth at t0
- Oxygen sensors in 10, 25 and 40 cm depth
- Tensiometers in 10 and 40 cm depth





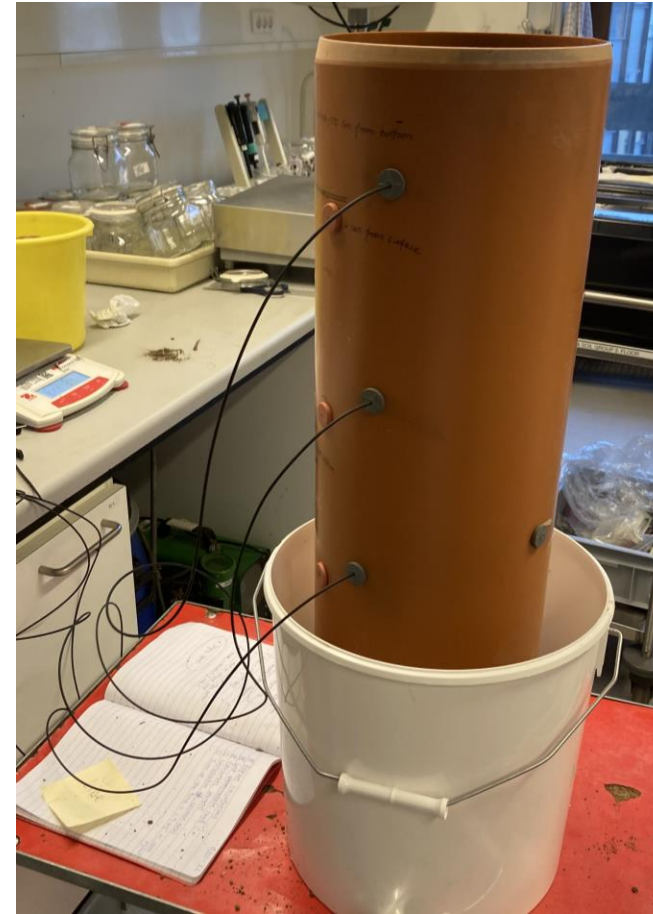
# How are we conducting the experiment?

## Complications

1. Tube volume 20 mL = sample volume of 1.5 mL to avoid air suction → manual injection on GC → margin of error too large

2. Water content management in the column

Conclusions: tubing works, setup with column has too many uncertainties/artifacts





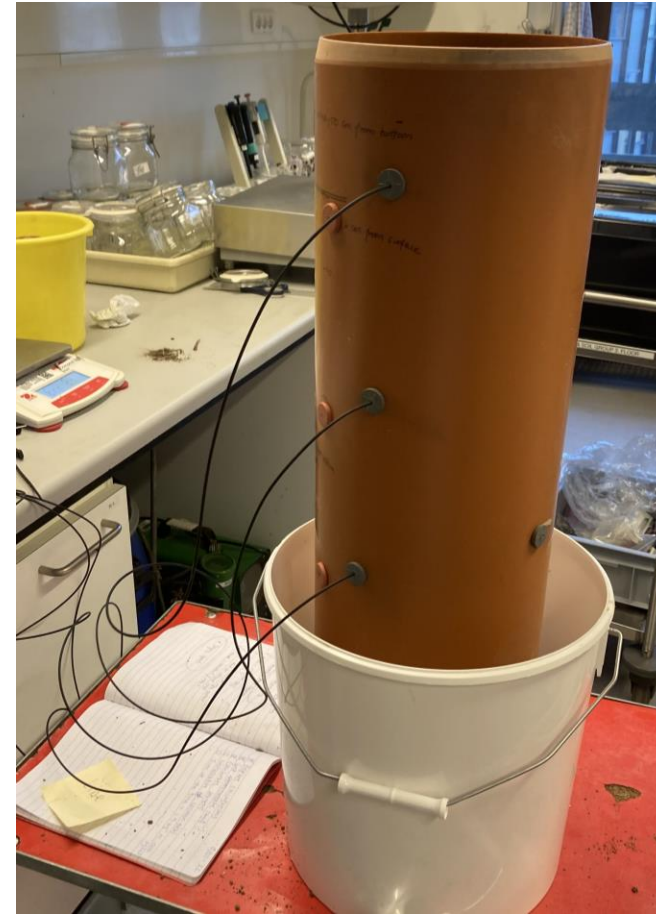
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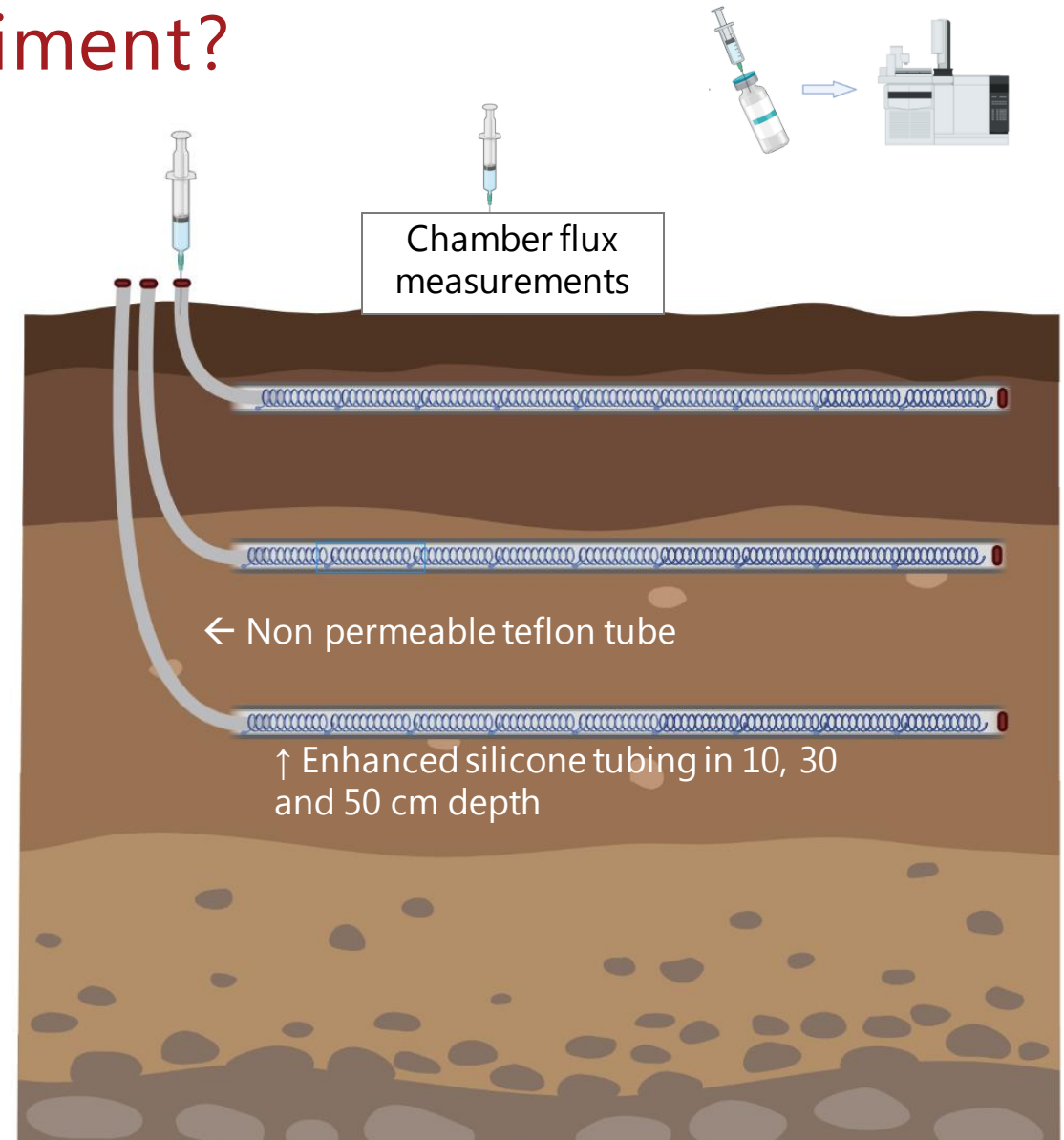
**So what's next?**

**Use of tube in the field!**



# How are we conducting the experiment?

## Application in the field



# Thank you for your attention



Please feel free to contact me

Line Vinther Hansen

[livh@plen.ku.dk](mailto:livh@plen.ku.dk)

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