

# We Want You!

**Student research project or thesis opportunity!**



## Stable isotopes in trace-gas analytics

Understanding how microform patterns and vegetation structure influence methane and carbon dioxide exchange with the atmosphere

This project is a collaboration between the University of Muenster, Carleton University, Ottawa and McGill University, Montréal.

### Key Facts

1

STUDENT

YOU

2

DEVICES

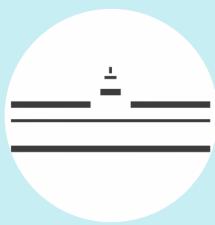
Quantum-Cascade  
Laser and Cavity Ring-  
Down Spectroscopy

3

MONTHS

In Ottawa and  
Montréal, Canada

See right page for



WWU Muenster



Carleton U  
Ottawa



McGill U  
Montreal

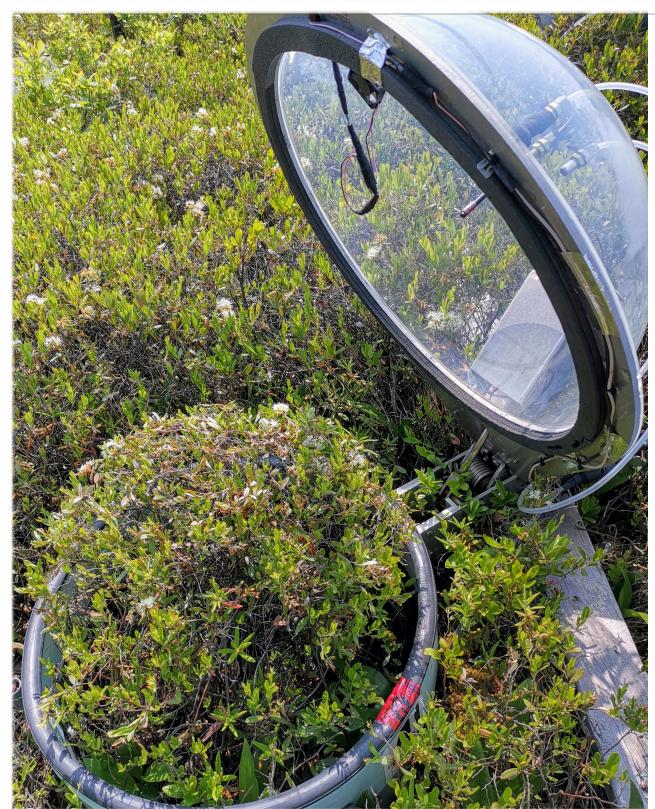
## project details

Peatlands play a key role in the global carbon budget and their response to climate change is still part of heavy debates. With this project we offer you the opportunity to dig deep and find answers to our most important research questions:

- Which influence does vegetation have on the exchange of carbon dioxide and methane with the atmosphere
- How can we improve our methods and understanding of underlying mechanisms
- Can we estimate the long-term effects of climate change on bog ecosystems

## Methods we use

We use top of the notch quantum cascade laser spectroscopy (QCL) as well as cavity ring-down spectroscopy (CRDS) to record real-time concentration and isotope data. Additionally, we use mass spectrometry and other analytic applications, depending on individual findings and experiments. We also perform pore water sampling and analysis, as well as peat sampling and analysis.



## FACTS AND DATES

**When:** Beginning of June, 2020 until September, 2020 (3 months)  
**Where:** Ottawa, Ontario, and Montréal, Quebec, Canada

**Requirements:** Drivers license, interest in analytical- and biogeochemistry

**What we offer:** Travel costs, a home and a car; An awesome time in Canada

**Contact:** patrick.Guth@uni-muenster.de

