

Rubenstein School of Environment and Natural Resources

University of Vermont

Perennial Summer Internship Program - 2021

Internship Title: Field and Lab Technician: Climate Impacts of Nitrogen Treatments in Hayfields

Internship Site: Borderview Farm (487 Line Rd, Alburgh, VT) and Aiken Forestry Science Laboratories (705 Spear St, Burlington, VT)

Description: There are growing concerns about the impacts of agricultural activities on both climate and water quality: agriculture accounts for about 10 percent of U.S. greenhouse gas emissions, and agricultural practices have been linked to toxic algal blooms across the country. There are a variety of agricultural management practices that are being studied to determine to what extent they mitigate or contribute to these challenges. One such example is manure injection, which places manure below the soil surface and thus potentially leads to less runoff than manure broadcast. However, some studies have found that manure injection leads to higher fluxes of nitrous oxide, a greenhouse gas with a warming potential nearly 300 times that of carbon dioxide.

The intern will help us understand how different nitrogen fertilizer types and application methods, including manure broadcast and manure injection, impact greenhouse gas emissions from soil in hayfields. The intern will support greenhouse gas sampling at Borderview Farm in Alburgh, VT and soil sample processing at the Aiken Forestry Science Laboratories in Burlington, VT. Fieldwork will be completed independently and entails long days (~6 am-3 pm) of gas sampling and other measurements (soil moisture, soil temperature, collecting soil cores). Lab work will be focused on extracting nitrate and ammonium from the soil samples.

This experience is a great opportunity to learn more about agricultural trials, greenhouse gas sampling, agricultural soils, nutrient cycling, fieldwork, and lab work.

Desired qualifications/skills/coursework:

- Strong interest in agriculture, ecology, biogeochemistry, and/or soil science
- Comfortable working independently
- Able to carry and maneuver heavy field equipment
- Some experience in a laboratory and/or field setting, but not required
- Comfortable driving ~1 hr each way to Borderview Farm (car ownership is not required)

Rubenstein students currently in their sophomore and junior years are eligible to apply. Seniors graduating in May 2021 are not eligible to apply. Earning Independent Study or Internship credit through the Rubenstein Internship Program is required. Due to possible restrictions related to the ongoing COVID-19 pandemic, Perennial Internships may happen as described, be modified or canceled.

Supervision:

The intern's daily field and lab work will be supervised by Sarah Brickman, M.S. Student. The faculty supervisor is Carol Adair.

Start and End Dates: Mid-May – Mid-August, 2021 (exact start/end dates are negotiable)

Total Hours: 20 hours/week, 12 weeks

Compensation: \$13/hour

How to apply: Step-by-step instructions. Please follow them closely.

- 1) Click the following link to view the Rubenstein Perennial Internship Descriptions in Handshake:
<https://uvm.joinhandshake.com/employers/226837>
 - a) If asked to log in: click “UVM Net ID Login” & login.
 - b) Click the Favorite button to enable easier searches in the future.
- 2) Click “View All Jobs” in Jobs at Rubenstein Perennial Internship Program box on right side of page.
- 3) You should now see the great Perennial internship opportunities! Click “View Details” to learn more about each position.
 - a) Please do take the time to carefully read each individual description so that you don’t miss a great opportunity by judging an internship solely on its title.
 - b) You may apply for up to **three** Perennial Internships.
 - c) All applications are due by 11:59pm, Wednesday, February 17th, 2021.
- 4) You’ll need to upload both required documents in Handshake before you can apply for any Perennial Internship:
 - a) Click on your name at top right of screen in Handshake
 - b) Select Documents.
- 5) Please upload documents as pdfs. The following are required documents:
 - a) Resume
 - b) Cover Letter
 - i) You should write and upload unique cover letters for each position to which you are applying.
 - ii) In your cover letter, provide name & contact information for at least one professional reference. This could be someone who supervised you in a past work/internship/volunteer position, a professor or teacher, etc. The person listed should **not** be the person also completing your recommendation form.
- 6) In addition to the documents listed above, a [recommendation form](#) will need to be completed by a Rubenstein faculty, graduate student or staff member of your choosing.
 - a) When you ask your recommender if they are willing to complete the form to support your application, please provide your recommender this [link to the recommendation form](#)
 - b) Only one recommendation form needs to be completed regardless of how many Perennial Internships you are applying for.
 - c) Your recommender will complete & submit this form online and then your recommendation will be confidentially added to your application(s). This [recommendation form](#) needs to be submitted by the February 17th deadline.

- 7) Make sure that your resume and cover letter(s) are as strong as they can be! Utilize the resources around you:
- a) The Rubenstein Stewards are great at reviewing resumes/cover letters and providing helpful feedback. Email the Stewards to schedule an appointment after the start of the semester: RSENRStewards@uvm.edu
 - b) Get your resume and cover letter reviewed by a Career Counselor at the Career Center. [You can learn more here about how to schedule an appointment.](#)
 - c) Sign up for a resume/cover letter review appointment with Anna Smiles-Becker (Rubenstein Career Counselor & Internship Coordinator) using [Navigate](#).
- 8) If you are selected to interview for a Perennial Internship, you will be contacted by the site to set up an interview during early-mid March.