

Rich Earth Institute Internship: Environmental Engineering & Sustainable Fertilizer Research

Eligibility: Must be a Vermont resident to qualify for this position

Compensation: \$15-18/hour Depending on Experience

Duration: Part-time position with a flexible work schedule approximately 40 weeks (at 8 hours/week); open until filled

ABOUT RICH EARTH

The Rich Earth Institute reclaims human urine as a safe, sustainable fertilizer that prevents watershed pollution and conserves clean water. We demonstrate urine recycling is possible through our community-scale program, and support others in completing the nutrient cycle through research, education, and technological development.

INTERNSHIP OVERVIEW

The Rich Earth Institute is seeking a motivated intern interested in learning about environmental engineering, biological systems, or sustainable agriculture to support applied research on an innovative nutrient recovery technology.

The intern will contribute to the development of a biological nitrification reactor (inspired by the low-tech "pitribon" reactor) for converting nitrogen-rich waste streams (including source-separated human urine and liquid dairy manure digestate) into a stable, odorless, high-quality liquid fertilizer. It is a trickling nitrification reactor that uses biochar as a medium for beneficial nitrifying bacteria.

This is an excellent opportunity to gain hands-on experience in laboratory research, environmental engineering, and experimental design while contributing to technologies that support sustainable agriculture, water quality, and circular nutrient management.

Relevant fields: *Environmental Engineering, Chemical Engineering, Biological Engineering, Environmental Science, Biology, Microbiology*



COMPLETING THE
**FOOD
NUTRIENT
CYCLE**

RESPONSIBILITIES

- Collect reactor influent and effluent samples for physical and chemical analysis
- Perform laboratory testing using standardized analytical methods and test kits
- Operate laboratory equipment, including pH and electrical conductivity sensors
- Assist with experiments optimizing operating parameters such as temperature, air and urine flow rates
- Record, organize, and analyze experimental data for future grant proposals and research publications
- Help conduct mass balance analyses and evaluate reactor performance
- Participate in team meetings and contribute to ongoing experimental design and troubleshooting



PREFERRED QUALIFICATIONS

- Coursework or experience in chemistry, microbiology, environmental science, engineering, or a related field
- Familiarity with basic laboratory techniques and safety protocols
- Strong attention to detail and ability to follow experimental methods accurately
- Experience collecting and organizing data; proficiency with Excel
- Ability to work both independently and collaboratively
- Strong communication and organizational skills
- Curiosity, initiative, and enthusiasm for applied environmental research

APPLY:

Please email a resume and cover letter describing your interest and experience to Jamina@richearthinstitute.org

Send questions about this position to Jamina@richearthinstitute.org or call (802) 631-0196

