Position Opening

POSITION: Student Research Assistant
STATUS: Part-time/Non-benefitted/Non-exempt
COMPENSATION: $16.10 - $16.25 per hour
DEPARTMENT: Center for Regenerative Agriculture & Resilient Systems (CRARS)
LOCATION: CSU Chico Campus, SCI 427
RECRUITMENT ID: 046
RESIDENCY: Candidate must be a California resident. Chico State Enterprises is not a sponsoring agency for staff and management positions (i.e. H-1B Visas).

ESSENTIAL JOB FUNCTIONS:

Brief description of research project:

Conventional land management practices (full tillage, fertilizers, pesticides, no ground cover) are known to diminish soil carbon storage, water holding capacity, and soil health. In contrast, regenerative agriculture practices (cover crops, no-till or conservation till, crop rotations) aim to promote soil organic carbon accrual, water retention, and soil health. This project compares carbon, metals, and water cycling in paired field sites to evaluate how changes in agricultural practices affect water and soil composition. We hypothesize that regenerative agriculture practices increase stabilized organic carbon, metals, and nutrient content in soil, improving water quality and limiting the export of nutrients and carbon to surface and ground waters. This project attempts to identify relevant compositional differences between regenerative and conventional agriculture soil and water systems.

Brief job description:

Under faculty guidance in a lab in the College of Natural Sciences, student research assistants will collect soil and soil water samples to measure 1) dissolved organic carbon using high temperature catalytic oxidation, 2) nutrients (N,P,K) using colorimetric methods, 3) metals using inductively coupled plasma mass spectrometry, and 4) aggregate water quality parameters including salt (as electrical conductivity), acidity (as pH), and turbidity using probes. At each site, irrigation water and surface runoff will be collected as grab samples, while shallow soil water will be collected with porous-cup lysimeters. Bi-weekly sampling will occur during the growing season at the CSU Chico University Farm sites. Metal concentrations in soil will be assessed once a year at each site. Total suspended sediment (TSS) concentrations will be determined in surface runoff to quantify soil erosion. To complement bulk density and aggregate stability measurements, soil water holding capacity will be determined from soil cores.

Students will conduct sample processing and preservation, sample analyses, data analysis and organization, statistical analysis, table/figure building, results poster creation, and drafting of publication manuscript(s).
EMPLOYMENT STANDARDS:

- Familiarity with lab safety, basic laboratory skills, and data spreadsheet management are required.
- Some background knowledge of soil science, dissolved organic carbon, nutrient, and metal cycling is also required.
- Faculty will assist with training, guidance, and troubleshooting.

HOW TO APPLY:
To be considered, submit the following documents by January 2\textsuperscript{nd}, 2024. Documents submitted after this date may not be considered.

- Resume
- Chico State Enterprises Application

BY DROP BOX: [https://csuchico.app.box.com/f/987ee1753fcc4172a24bf3f5d82f0d38](https://csuchico.app.box.com/f/987ee1753fcc4172a24bf3f5d82f0d38)

BY EMAIL: csejobs@csuchico.edu

Paper applications will not be accepted; however, Chico State Enterprises is an Equal Opportunity Employer and is happy to provide reasonable accommodations to applicants at any step of the application process. If you need assistance in this regard, or are having technical difficulties, please contact the Human Resources office at 530-898-6811 or csejobs@csuchico.edu prior to 5:00 pm on the document deadline date. The employer is Chico State Enterprises, a non-profit corporation serving as an auxiliary organization of California State University, Chico. Employment is considered to be at-will.

AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER:
Chico State Enterprises is an Equal Opportunity Employer and does not discriminate against persons on the basis of race, religion, color ancestry, age, disability, genetic information, gender, gender identity, gender expression, marital status, medical condition, National origin, sex, sexual orientation, covered veteran status, or any other protected status. It is the Enterprises’ policy to hire only United States citizens and aliens lawfully authorized to work in the United States. All new employees must provide proof of identity and authorization to work.