EcoCore mini-grant Request-For-Proposal

EcoCore (https://ecocore.nrel.colostate.edu/) is a Core Facility administered through the Natural Resource Ecology Laboratory (NREL) within the Warner College of Natural Resources (WCNR). We are a fee-for-service lab, but also provide training for faculty/staff/students wishing to run instruments themselves.

We wish to catalyze discovery and method development in research areas related to agriculture, ecology, ecosystem and agricultural sustainability, and water resources by offering mini-grants to CSU researchers. This RFP seeks proposals that will enable students, post-docs and early-career researchers to develop methods and generate preliminary data for larger proposals to funding agencies. We will be able to provide limited salary support to carry out these efforts, along with the primary focus of providing cost-per-sample support on EcoCore’s existing instrumentation (see list below) as well as access to EcoCore’s prep lab space and for training/consulting/method development time with EcoCore’s management.

This mini-grant does NOT support the following:

- Instrument design/development
- Routine sample processing for existing projects

Support WILL be provided for the following:

- Expanding application of existing instrumentation
- Generation of preliminary data for a larger proposal

Interested parties should submit an application package consisting of:

- A brief description of current research, or a short research proposal, no longer than 3 single-spaced pages including all diagrams and references.
- A budget outlining how the awarded funds will be used.
- CV

Funding shall be awarded on the basis of the overall quality of the application package, quality of the research proposed, and likelihood of the work leading to a larger proposal/initiative.

Please submit applications by email to Rodney Simpson (rodney.simpson@colostate.edu) by 5pm on Friday, December 22, 2023. Successful proposals will be funded in early January. Please send any questions you may have as well.

We anticipate funding up to 2 projects with up to $6000 in justifiable project costs in addition to $3750 of salary support inclusive of fringe. Please note: all work charged to the project must be completed by June 1, 2024.
EcoCore provides all necessary sample prep space along with access and analytical services for a variety of instruments for elemental and biological analysis in solid, liquid, or gas samples including:

- Velp CN 802 elemental analyzer (US Office: Velp Scientific, Bohemia, NY) for carbon and nitrogen concentration from solid samples (soil and plant).
- Shimadzu TOC-L for total/dissolved C and N from liquid samples (water and salt solution/K₂SO₄ for microbial biomass) and dissolved inorganic carbon.
- Alpkem OI Analytical model 3700 automated wet chemistry system for measuring inorganic nitrogen (NH₄, NO₂, NO₃) and ortho-PO₄ concentration from water and KCl extracts.
- Costech EA-isotope ratio mass spectrometer, used to determine δ¹⁵N and δ¹³C from solid samples.
- Thermo Delta V coupled to a GC-isolink unit with a Trace GC Ultra, Precon, and ThermoFisher Gas Bench. This instrument can measure compound-specific δ¹³C and trace gas isotopic characteristics. A recently installed Gas Bench enables it to also measure δ¹⁸O and δ¹³C of carbonates and of CO₂ gas.
- Picarro laser-based water isotope analyzer with automated sampler for fast-throughput measurements of δ¹⁸O and δ²H in water and in vapor.