

CU TUnDRA
CU TRaIL Undergraduate Directed Research Awards
Spring 2022

Overview

The [CU TRaIL](#) is a (U-Th)/He lab in the Department of Geological Sciences at CU-Boulder. TRaIL has had a history of supporting undergraduates, their research experiences, and associated analytical costs since the lab's inception in 2012. As of 2022, the lab has invested over \$23,000 in undergraduate research, supporting at least 27 CU-Boulder undergraduate researchers and 1 high school student researcher, as well as supporting 6 underrepresented minority undergraduates in the RESESS (Research Experiences in Solid Earth Sciences for Students) summer internship program.

The CU TUnDRA (TRaIL **U**ndergraduate **D**irected **R**esearch **A**wards) Program provides undergraduates with the opportunity to apply for up to **\$1000** to support analyses for their research projects in our lab. To be considered, you must:

- Be an undergraduate who is majoring in the Dept of Geological Sciences
- Have a project that is being mentored by a member of the Dept of Geological Sciences who is already trained in CU-TRaIL methods and will train you in the procedures needed for your project (e.g., mineral separation, mineral picking, data interpretation).

We anticipate making 3-4 TUnDRA awards per year. We encourage motivated undergraduates to also consider applying for other sources of funding to help advance their work, such as support from the [CU UROP program](#), funds from the Dept of Geological Sciences undergraduate mentoring program, and undergraduate awards offered by different regional sections of the Geological Society of America.

Applications may be submitted at any time and should be sent by email to both:

TRaIL PI, Prof Becky Flowers: rebecca.flowers@colorado.edu

TRaIL Manager, Research Associate Jim Metcalf: james.metcalf@colorado.edu

Application Materials

Your application should include:

Contact info and title

1. Your name and email address
2. Your project advisor name and project advisor email address
3. Project title

Motivation and proposed work

4. Succinctly explain the geoscience question or hypothesis that your analytical work will address. (250 words max)
5. Explain why the question you are addressing is of broader importance. (250 words max)

Proposed work

6. Explain what samples you propose to target for analysis and why. Explain what types of analyses (e.g., apatite or zircon (U-Th)/He) that you propose to acquire and why. (250 words max)

Budget

7. Clearly list your proposed budget for the analytical work.
 - Current internal (U-Th)/He analytical rates for grains picked by CU undergraduate students who are trained by non-TRaIL staff are:
 - \$45/apatite. Assuming 5 grains/sample = \$225/sample
 - \$75/zircon. Assuming 3 grains/sample = \$225/sample
 - Note that some samples require more than 5 or 3 grains, but this number is typically sufficient for undergraduate projects and for pilot studies.
 - The lab is currently adding additional capabilities to the lab, including U-Pb dating by laser-ablation ICP-MS. These analyses will be available to include in TUnDRA applications within the next year.

Project outcomes

If you receive a TUnDRA award, please provide us with copies of any products that result from your research, such as abstracts presented at conferences or undergraduate honors thesis.