AGeS-Grad information session

December 20, 2023

Next proposal deadline: **Feb 1, 2024**

AGeS Website: www.agesgeochronology.org

Follow AGeS on Twitter(X): @AGeSGeochron

Supported by NSF Frontier Research in Earth Sciences awards EAR-2218547, -2218544, -2218504

Agenda

- Overview (Becky Flowers)
- Financials (Ramon Arrowsmith)
- Cohorts and cohort-building (Jacky Baughman)
- Network committee (Haley Thoreson)
- Grad experiences (Haley Thoresen, Shanti Penprase)
- Questions?

AGeS-Grad Overview

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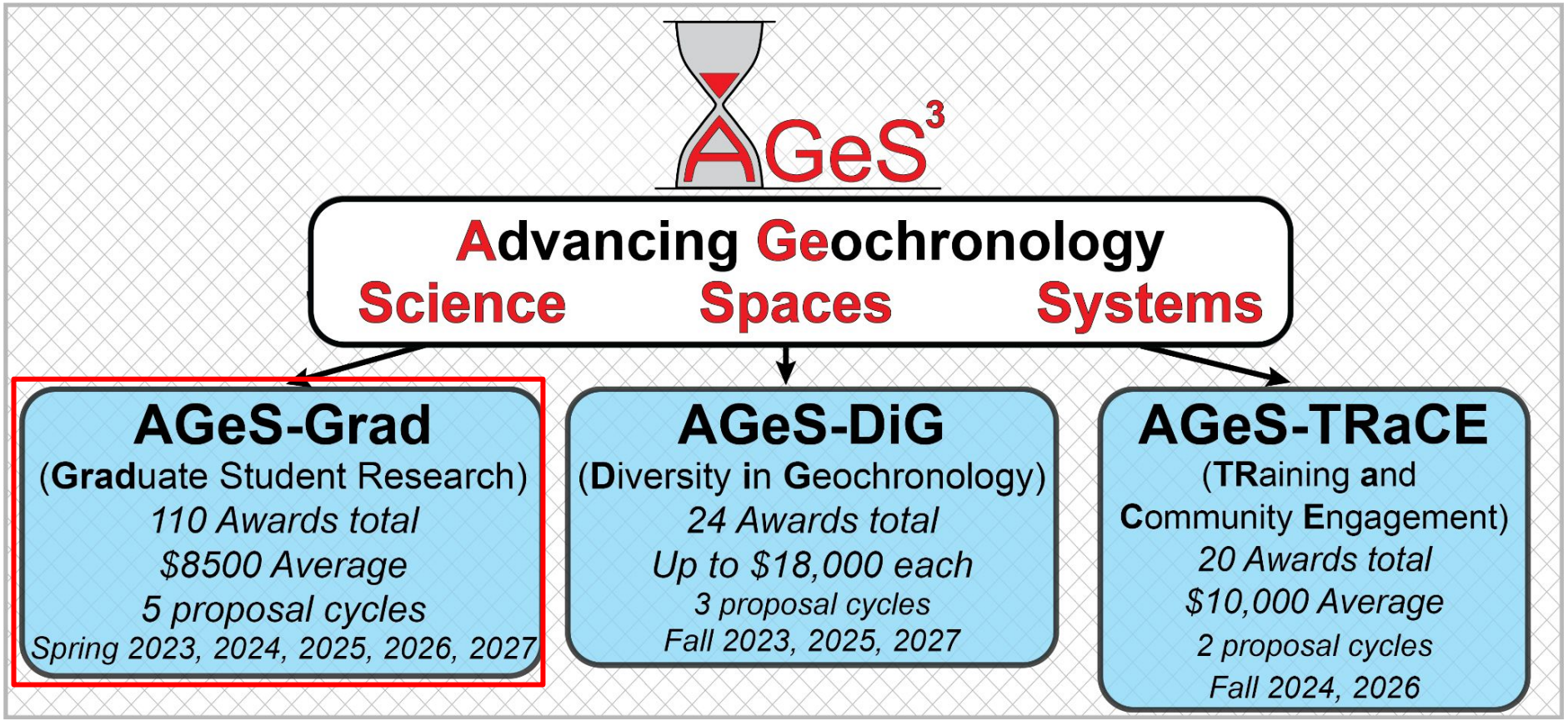

AGeS-Grad: Goals and Program Structure

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What are the AGeS-Grad Program Goals?

- Broaden access to geochronology data
- Educate users of data
- Promote synergistic science
- Produce valuable data for projects in which both data users and producers are intellectually engaged

How does the program work? AGeS-Grad is a proposal-driven program that offers up to $10k for graduate students to acquire geochronology data for their research projects and provides hands-on experience in labs while being mentored by geochronologists.

AGeS-Grad: Program Information

agesgeochronology.org

What can AGeS-Grad funding be used for? Awards can be used for analytical costs, sample preparation, travel to the host lab, lodging, and related expenses.

Who can apply? Graduate students in the U.S. or its territories. AGeS seeks to fund broadly in terms of research, geochronologic technique, and participants.

Do I need to have geochronology experience to be competitive for support? NO. AGeS specifically seeks to develop and promote new collaborations and new experiences in geochronology.

AGeS-Grad: Program Information

agesgeochronology.org

How many AGeS-Grad awards will be made in 2024? 18-22

What was the proposal success rate last year? ~50%

When is the proposal deadline? Feb 1, 2024

AGeS-Grad: Proposal Process

agesgeochronology.org

How do I find a geochronology lab to work with?

- AGeS currently includes a consortium of >60 geochronology labs and >100 affiliated geochronologists.
- Visit the AGeS website to view the profiles of all AGeS labs
- Each lab can support up to 4 proposals in a given AGeS-Grad cycle

How do I initiate an AGeS proposal?

- Initiate contact with a lab to propose a project
- If the lab is interested in the project, the lab will help the student refine and clarify their proposed research and ultimately will submit a support letter for the project

AGeS-Grad: Proposal Process

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How do I apply?

- Through the submission portal on the AGeS website
- Complete the project description for your proposal, including intellectual merit and broader impact components
- Following proposal submission, your home institution supervisor and the host lab will be asked to submit letters of support

Who will review my proposal?

- Review by 10-member committee
- At least two reviewers provide feedback on each proposal
- Unanimous committee support of final rankings and awards
- The committee may partially fund proposals

AGeS-Grad: Review Criteria

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Intellectual merit: Proposal Quality (70 points total)

1. Overall significance (30 points)

General quality of the proposed research, including its scope, importance, and relevance to NSF-EAR science goals. Clarity of the proposal's central question or hypothesis.

2. Project design (25 points)

General likelihood that the research will be able to answer the central question or hypothesis of the proposal and produce useful results. Considerations can include the choice of technique, sampling strategy, and whether the proposed methods are well-established or experimental. AGeS is willing to fund well-designed, higher-risk projects.

AGeS-Grad: Review Criteria

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Intellectual merit: Proposal Quality (70 points total) - Continued

3. Coordination, timeline, and budget (10 points)

Assessment of the proposed timeline and budget, specifically considering the time required for sample acquisition and preparation, training, analysis, and interpretation. This criterion relies partially on good coordination between the proponent and the hosting facility, evaluated based on the student proposal, the clarity of the lab plan, and the support letters. Budgetary considerations can include the availability of other sources of funding.

4. Effectiveness of the figure (5 points)

The figure contributes to explaining the overall project significance, project design, or sampling plan (4 points). The figure is referred to in the proposal text and includes a clearly written caption (1 point)

AGeS-Grad: Review Criteria

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Broader Impacts: Building networks and expanding access (30 pts total)

1. **Building networks: Potential for fostering new research collaborations and a greater sense of belonging in geoscience (15 points)**
   The degree to which this experience will increase a sense of belonging in geoscience for the student by creating new partnerships and opportunities, including new collaborations between different institutions, research groups, and individuals.

2. **Expand access: Potential for fostering the acquisition of new geochronology skills by the student (15 points)**
   The extent to which this research provides a new and otherwise unavailable opportunity for the student to obtain experience with and training in analytical work and geochronology

AGeS awards do not go directly to the students nor to their institutions

- Travel is generally reimbursed, although we also work with students for airfare purchased in advance, etc. to ease your financial burden.
- Lab and other processing costs are invoiced directly to ASU upon analysis completion.

Awardees can spend up to their award amount until the date specified in their award documents (typically within one year of the award).

AGeS-Grad Community and Cohort Building Activities

Zoom Call in May 2023 with AGeS-Grad Awardee 2023 Cohort

Virtual Support as an AGeS Awardee

- **Jacky Baughman** - Cohort Lead
  - jacky.baughman@humboldt.edu
  - gradcontact@agesgeochronology.org
- **Cohort Zoom check in**
  - Lab visit planning
  - Share project progress
- **Slack channel**
  - Full AGeS-Grad community
  - Channels by tool
  - Channels by cohort
  - Ask questions and share successes

AGeS-Grad Community and Cohort Building Activities

Building Geochronology Community

- **AGeS Virtual Symposium**
  - Share your science!
  - Breakout sessions
    - Successful collaborations
    - Academic and other careers
- **AGeS Awardee Spotlights**
  - Monthly spotlight
  - Project Profiles for all awardees posted at end of project
- **Opportunity for in-person meetups during conferences**

AGeS Workshop prior to GSA Annual Meeting, Boulder, CO, October 2022

AGeS^3 Network Committee

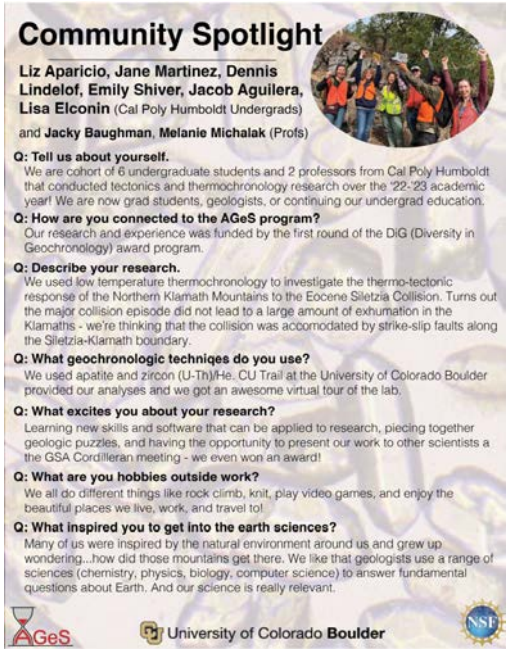
Community Spotlights

What is the network committee?

We assist with building and maintaining the AGeS community through activities that bring together past and new AGeS awardees and that showcase the people side of AGeS.

What do we do?

- Happy hour socials at conferences
- Virtual meetings
- AGeS Spotlights
- & more to come!



Community Spotlight

Liz Aparicio, Jane Martinez, Dennis Lindelof, Emily Shiver, Jacob Aguilera, Lisa Elconin (Cal Poly Humboldt Undergrads) and **Jacky Baughman, Melanie Michalak** (Profs)

Q: Tell us about yourself.
We are cohort of 6 undergraduate students and 2 professors from Cal Poly Humboldt that conducted tectonics and thermochronology research over the '22-'23 academic year! We are now grad students, geologists, or continuing our undergrad education.

Q: How are you connected to the AGeS program?
Our research and experience was funded by the first round of the DiG (Diversity in Geochronology) award program.

Q: Describe your research.
We used low temperature thermochronology to investigate the thermo-tectonic response of the Northern Klamath Mountains to the Eocene Siletzia Collision. Turns out the major collision episode did not lead to a large amount of exhumation in the Klamaths - we're thinking that the collision was accomodated by strike-slip faults along the Siletzia-Klamath boundary.

Q: What geochronologic techniqes do you use?
We used apatite and zircon (U-Th)/He. CU Trail at the University of Colorado Boulder provided our analyses and we got an awesome virtual tour of the lab.

Q: What excites you about your research?
Learning new skills and software that can be applied to research, piecing together geologic puzzles, and having the opportunity to present our work to other scientists a the GSA Cordilleran meeting - we even won an award!

Q: What are you hobbies outside work?
We all do different things like rock climb, knit, play video games, and enjoy the beautiful places we live, work, and travel to!

Q: What inspired you to get into the earth sciences?
Many of us were inspired by the natural environment around us and grew up wondering...how did those mountains get there. We like that geologists use a range of sciences (chemistry, physics, biology, computer science) to answer fundamental questions about Earth. And our science is really relevant.

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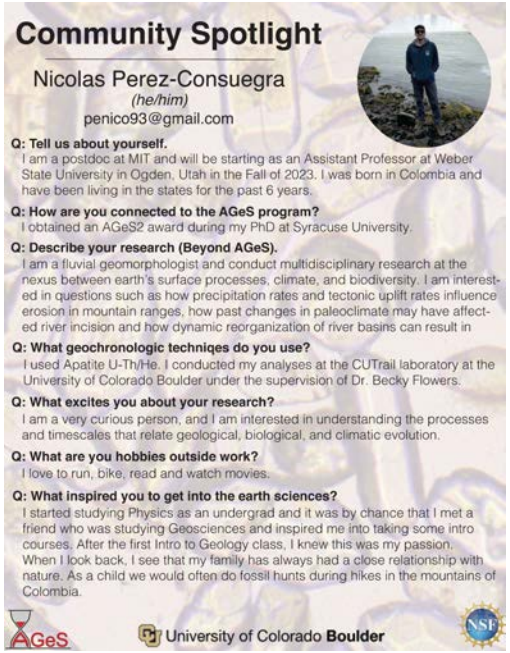

Community Spotlight

Nicolas Perez-Consuegra
(he/him)
penico93@gmail.com

Q: Tell us about yourself.
I am a postdoc at MIT and will be starting as an Assistant Professor at Weber State University in Ogden, Utah in the Fall of 2023. I was born in Colombia and have been living in the states for the past 6 years.

Q: How are you connected to the AGeS program?
I obtained an AGeS2 award during my PhD at Syracuse University.

Q: Describe your research (Beyond AGeS).
I am a fluvial geomorphologist and conduct multidisciplinary research at the nexus between earth's surface processes, climate, and biodiversity. I am interested in questions such as how precipitation rates and tectonic uplift rates influence erosion in mountain ranges, how past changes in paleoclimate may have affected river incision and how dynamic reorganization of river basins can result in

Q: What geochronologic techniqes do you use?
I used Apatite U-Th/He. I conducted my analyses at the CUTrail laboratory at the University of Colorado Boulder under the supervision of Dr. Becky Flowers.

Q: What excites you about your research?
I am a very curious person, and I am interested in understanding the processes and timescales that relate geological, biological, and climatic evolution.

Q: What are you hobbies outside work?
I love to run, bike, read and watch movies.

Q: What inspired you to get into the earth sciences?
I started studying Physics as an undergrad and it was by chance that I met a friend who was studying Geosciences and inspired me into taking some intro courses. After the first Intro to Geology class, I knew this was my passion. When I look back, I see that my family has always had a close relationship with nature. As a child we would often do fossil hunts during hikes in the mountains of Colombia.

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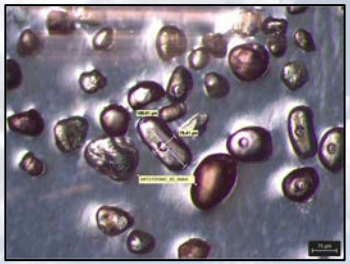
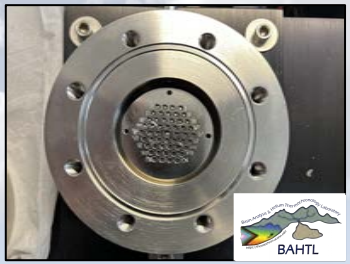
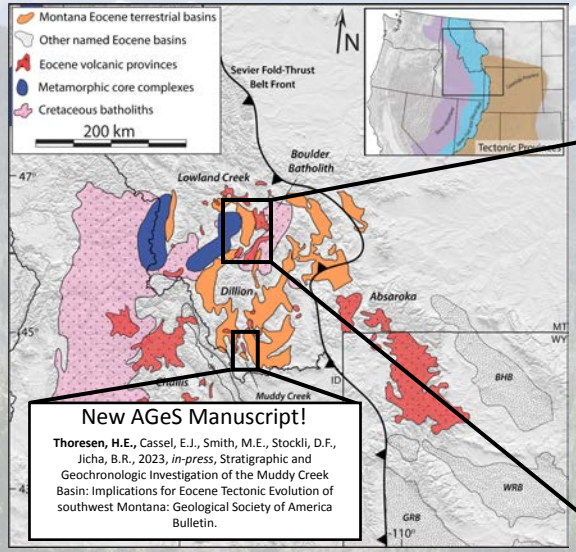
Questions? Please reach out to haleyt@uidaho.edu!

Eocene Basin Record of Metamorphic Core Complex Exhumation in the Western United States Cordillera

Haley E. Thoresen



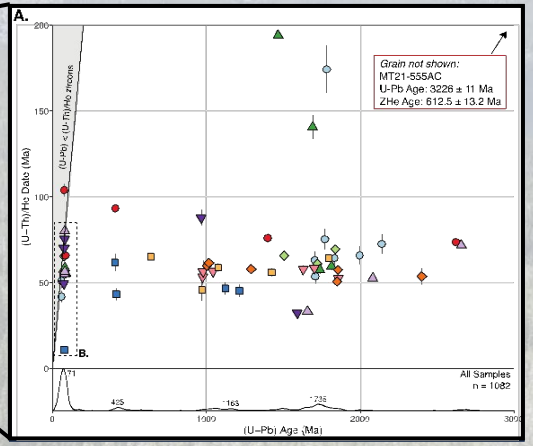




New AGeS Manuscript!

Thoresen, H.E., Cassel, E.J., Smith, M.E., Stockli, D.F., Jicha, B.R., 2023, *in-press*, Stratigraphic and Geochronologic Investigation of the Muddy Creek Basin: Implications for Eocene Tectonic Evolution of southwest Montana: Geological Society of America Bulletin.

***Goal**: Determine the timing and drivers of extension and basin formation following contractional deformation*



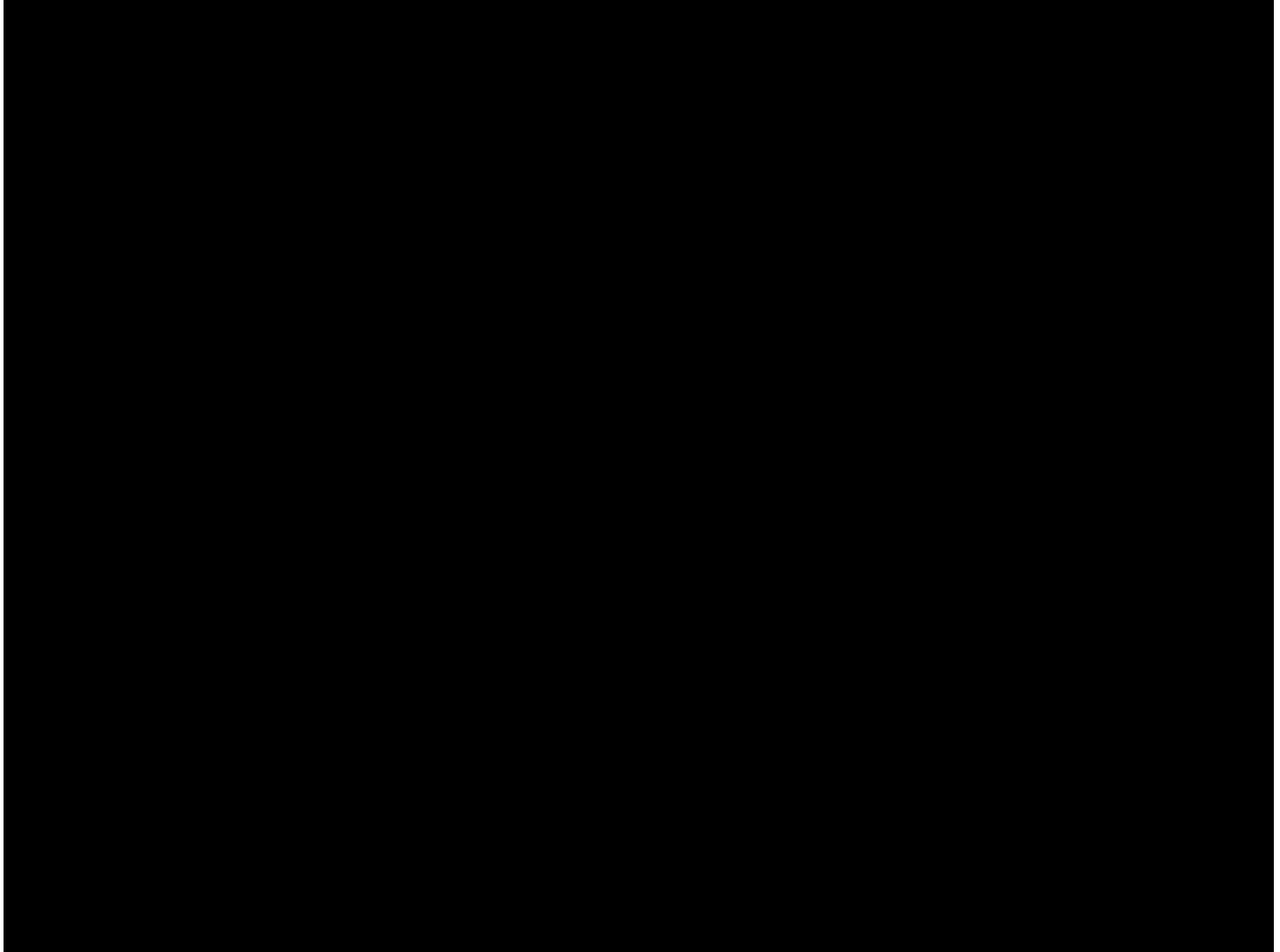
Successes

- ☑ Large Detrital Zircon (U-Th)/He Dataset
  n = 89 dates
- ☑ Very positive + informative lab experience
- ☑ High impact preliminary results

Advice

- Start your grant early and don't be afraid to ask for help from your collaborating lab.
- Use the figures to your advantage!

Shanti Penprase
Project Overview



Questions?