STANFORD EARTH SUMMER UNDERGRADUATE RESEARCH PROGRAM (SESUR)

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- Are you eager to investigate a question or solve a problem related to the Earth, energy, or our environment?
- Do you want to explore an idea or an issue that interested you in a class?
- Would you like to work with a faculty member and graduate student to learn about the world of research in the Earth and environmental sciences?

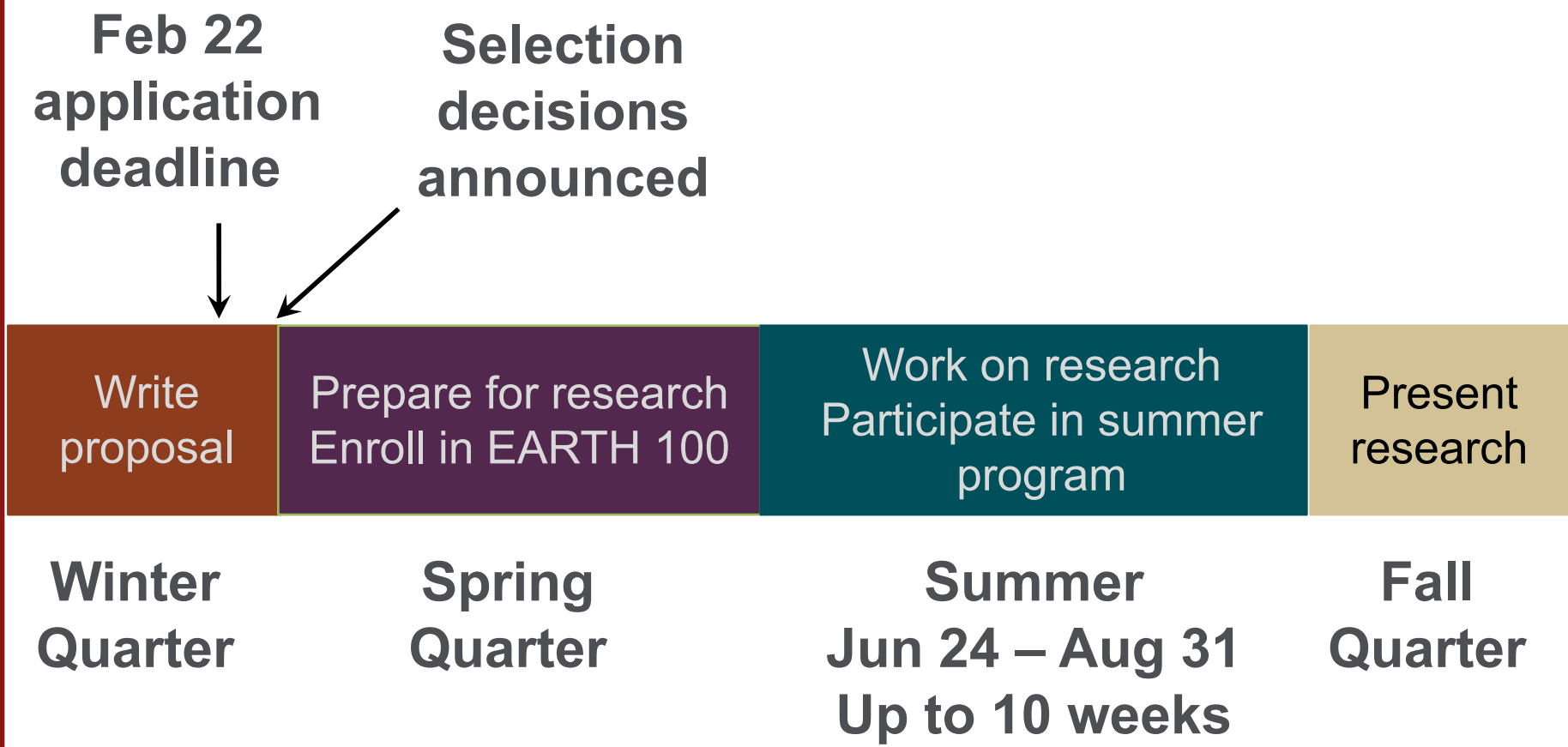
Why do research as an undergraduate?

- Develop relationships with faculty/graduate students/post docs
- A way to learn and *create* knowledge
- Address your own curiosity about a topic, or help address a societal need
- Learn resilience, creativity, and problem-solving skills
- Explore a potential career direction
- Learn how to effectively communicate about your work

What is research like?

- Collaborative
- Alternately frustrating and exciting
- Often open-ended
- Requires development of technical expertise and immersion in background literature
- May require field work
- Fun, interesting, and rewarding!

SESUR Timeline for 2019



How do I find a project and mentor?

- Look on the website for potential projects. Choose 3 that spark you.
- Send an email message to both the professor and grad student/ postdoc. Set up an appointment to talk about the project.
- Shadow the grad student/postdoc.

Self-directed projects

- You must find a faculty mentor who has expertise in your area and has the time to guide you.
- Consider applying for a major grant instead

How do I apply?

Your application is a written proposal including the following:

A description of the proposed project

- What question are you asking?
- Why is a significant or important question?
- How will you address it (experimental design, if applicable)?
- What methods will you use?
- What are your research objectives?

A tentative work plan

- What are you going to do and when? (Week by week bullet points are good) 50-75% data collection, time for analysis

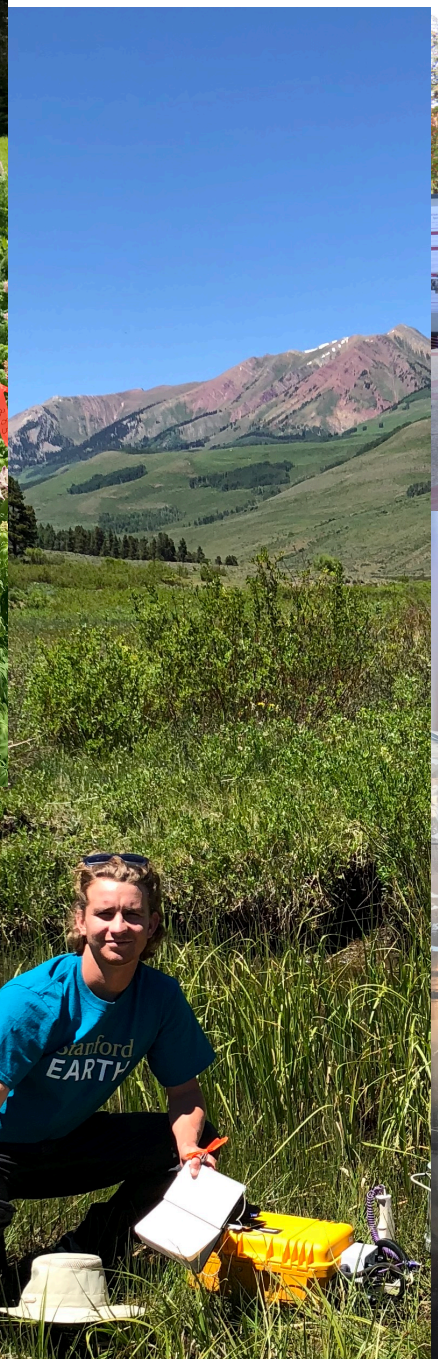
A tentative budget

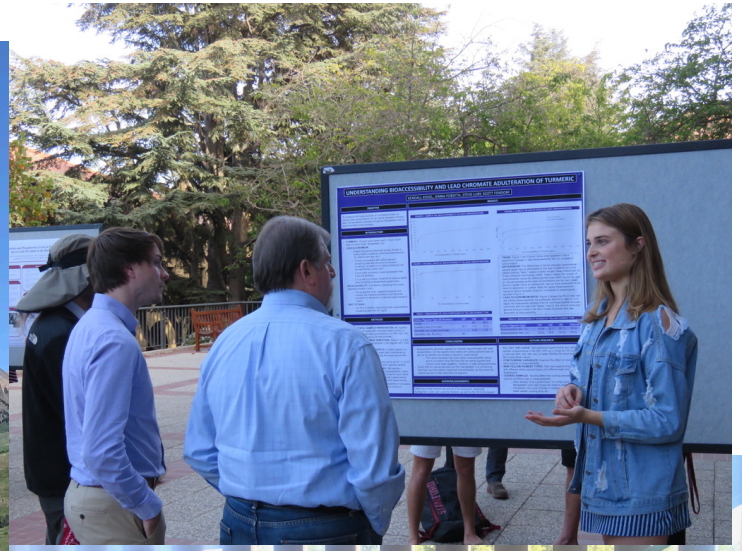
- up to $7,500 for your stipend ($750 per week, up to 10 weeks)

View examples of successful proposals and submit your own application on the program website

Expectations for SESUR fellows

- Commit to 40 hours/week for 10 weeks of project. Think of it as a full-time job.
- Take EARTH 100 in Spring Quarter (1 unit, C/NC).
- Participate in summer seminar, if on campus.
- Proactive communication with your research advisor.
- Poster and/or presentation. At SURPS or Stanford Earth undergraduate research symposium in fall.




UNDERSTANDING BIOACCESSIBILITY AND LEAD CHROMATE ADULTERATION OF TURMERIC

Stanford
EARTH

A few recent research projects

- Modeling multiphase magma flow through vertical conduits during short volcanic eruptions
- Health effects of low level metals exposure via well water on the Crow Reservation, Montana
- Satellite mapping of agricultural areas
- Topographic effects on drought stress in California redwoods
- The affective benefits of nature experience: Investigating the role of emotion regulation and modeling the benefits

earth.stanford.edu/2018-potential-projects

To recap…

December/January – Project descriptions posted.

Winter Quarter – Proposal prep w/advisor – should be collaborative.
This takes some time, don't wait!

February 22 (Friday) – Proposal submission; research fellows selected.

Spring Quarter – Research preparation (enroll in EARTH100).

Summer – Work on research; participate in seminar & field trips.

Fall – Presentation at SURPS & Stanford Earth symposium.

Beyond . . . Present at scientific meetings, publish in journals, develop honors theses, achieve fame and glory

Summer research fellows receive a stipend of up to $7,500

https://earth.stanford.edu/stanford-earth-summer-undergraduate-research-program

bit.ly/sesur

Questions??

THANKS FOR COMING!

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