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**

- **Winter Quarter**
  - Write proposal
  - Selection decisions announced

- **Spring Quarter**
  - Prepare for research
  - Enroll in Earth 100

- **Summer**
  - Work on research
  - Participate in summer program
  - Jun 27 – Sept 1

- **Fall Quarter**
  - Present research

Stanford University
How do I apply?

Your application is a written proposal including the following elements:

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)

A tentative budget:
- up to $7,000 for your stipend
- up to $500 for additional research expenses

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

Stanford University
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 during Spring Quarter (1 unit, C/NC)
- Participate in summer seminar if on campus.
- Proactive communication with your research advisor.
- Poster presentation at SURPS; oral presentation at Stanford Earth undergraduate research symposium.
A few research projects from 2016

- 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
To recap…

December/January – Project descriptions posted.
Winter Quarter – Proposal prep w/advisor – should be collaborative.
February 24 (Friday) – Proposal submission; research fellows selected.
Spring Quarter – Research preparation (enroll in Earth 100).
Summer – Work on research; participate in seminar & field trips.
Fall – Presentation at SURPS & Stanford Earth symposium.
Beyond . . . Present at scientific meetings, publish in journals, present
develop honors theses, achieve fame and glory (?)

Summer research fellows receive a stipend of up to $7,000 and up to
$500 for research-related materials.
https://earth.stanford.edu/stanford-earth-summer-undergraduate-research-program

bit.ly/sesur

Questions??

THANKS FOR COMING!

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