A Guide to Finding the Best Undergraduate Research Experience for YOU: Planning for Next Summer

WHAT is an UNDERGRADUATE RESEARCH EXPERIENCE?

An **undergraduate research experience (URE)** is a fantastic way to immerse yourself into the world of science and technology. It allows you to apply knowledge gained in the classroom to real-life situations. These experiences come in all shapes and sizes:

- You can do research during the **summer** (typically 25-40 hrs. a week) or **academic year** (5-10 hours a week).
- Research experiences can be conducted:
  - At your home-campus
  - In the local community
  - At another university in the U.S.
  - Abroad!
- Students can easily find **paid** research experiences (stipends generally range from **$2000-$8000**).
- There are a **VARIETY** of options for research projects! For example:
  - Biomedical sciences research at the University of Alabama http://www.uab.edu/medicine/sibs/prospective-students
  - Conduct atmospheric research in Boulder, Colorado http://www.soars.ucar.edu/apply/
  - STAR – STEM Teacher and Researcher Program, Cal Poly On-line application opens M 10/15

> **There can also be other types of compensation:**
> - Course credit
> - Publication opportunities
> - Access to newer equipment and labs
> - Skills development

> **Having a hard time finding research in your discipline?**
> That's okay! It **does not** matter if the research experience you choose is in your discipline or not (this also provides a great opportunity for you to explore a field that you are unfamiliar with!). What **DOES** matter is the fact that you become familiar with these important research processes that play a huge role in the STEM fields. Here at **LSAMP**, we encourage all students to apply to these experiences!

WHY Should You Participate?

These programs are typically designed to:

- Give students a hands-on experience (what we at Cal Poly like to call **"Learn by Doing"**).
- Provide professional development opportunities for students.
  - Many include **supplementary lectures, events and networking opportunities.**
  - This includes: **Graduate school** preparation + **GRE practice**, preparing/presenting posters for conferences, getting ready for a scientific talk, and more!
- Enable students to develop various skills, making you a more **well-rounded** scholar.
  - Communication and group dynamics
  - Leadership
  - Becoming more familiar with scientific reading and writing
  - Presenting research to STEM and non-STEM audiences
- Facilitate **professional network development** and lifelong relationships.
- Allow students to become familiar with scientific processes and research culture.
  - It's a great addition to your resume. As you apply to graduate/professional programs, admissions offices may be looking for candidates who have had research experience (as this is an **important** component of graduate school).

WHO Should Apply?

Who should apply to UREs? Everyone should! There are many research teams aiming to recruit STEM students from **underrepresented** backgrounds (i.e. diverse racial/ethnic backgrounds, first-generation, low-income, transfer students, etc.).

In most cases, undergraduate research experiences require U.S. citizenship or permanent residency. However, there are some opportunities for **DACA recipients** or **undocumented students. If you are DACAmented or undocumented and interested in doing undergraduate research, please set up an appointment with undocu@calpoly.edu.**

WHEN Should You Start Searching?

Preparing for these experiences can take some time and require special planning.
THANKSGIVING AND WINTER BREAK are great times to start your search!

KEEP IN MIND!
Cal Poly's **quarter system** is unique and may not sync well with the dates of different UREs. Many programs have flexible start/end dates, but you won't know if you don't ask! Check before you apply.

Consider the following when you begin your search:

Most deadlines are between **November & March** (for **summer** research experiences), so start searching early (if you have not already started)!

Even if you find experiences online that are **outdated**, double check with program organizers. In many cases, these programs are **renewed annually** (but websites aren't always updated).

Ask for Letters of Recommendation **about a month** in advance of the deadline!

When asking for letters of recommendation…
Make a list of faculty you would like to reach out to, and **go to their office hours/make an appointment!** It can be very helpful if you give your recommender a packet with:
- your application materials (resume, transcripts, statement(s) of purpose)
- a description of the program,
- and **highlight deadlines**

Remember, you want the letter to be **specific** to your accomplishments. Ask your recommender if they can/will write you a STRONG letter of recommendation.
Check the **format for submitting** Letters of Recommendation – some programs may have special forms for submission. If it needs to be mailed, provide your recommender with postage and an envelope. Reach out to **LSAMP** if you are having trouble getting stamps or envelopes – we can also do the mailing for you!

If you would like to find a **summer research experience at Cal Poly, **JANUARY** is the absolute latest time to get in touch with faculty researchers. When you visit faculty researchers during **office hours or make an appointment**, bring along your resume and a short personal statement/cover letter that explains why their project will bolster your education. Our **LSAMP** team is happy to look over personal statements, resumes, or locate faculty members who are conducting interesting research!

HOW Should You Prepare and Apply?

- Aim for a **high GPA** – some programs may screen applicants or have a GPA minimum.
- Talk with your professors and advisors about research options in your field.

- Get organized!
  - o You'll be looking at *many* different types of undergraduate research programs. It's important to keep track of what you **are** and **are not** looking for in a program.
  - o Create your own organization system OR use the **Research Program Snapshot Form** created by Diana Lizarraga of the UC Berkeley NERDS Program.

Make sure you are aware of <u>ALL</u> components of the application!

- ☐ Application Form
- ☐ Cover Letter/Personal Statement/Statement of Purpose
- ☐ Transcripts (official or unofficial)
- ☐ Financial aid information
- ☐ Letters of Recommendation (2-3)
- ☐ Resume/Curriculum Vitae (sometimes)
- ☐ Research experience summary (sometimes)
- ☐ Or, any unique aspects of each application

HOW to Select Which Programs to Apply to?

Apply to multiple programs…it's **free**, so why *NOT*? Here are some things that **you** – as talented STEM students – should consider when looking at programs:

- What are your area(s) of interest? Would you like to gain exposure to new disciplines?
- What skills do you have to **offer****, and what are you looking to **gain**?
- How are you willing to **challenge** yourself?
- Are you thinking about **graduate or professional** school? Will this program allow you to gain more insight into this?
- What is the time commitment like? Are you expected to live on campus?
- Where is the research experience located?
- What kind of financial stipends or support does this program provide? Does it cover **travel** or conference registration costs?

**Remember!
You may already have lab experience from your STEM courses!

LSAMP is a great resource for locating **travel** support! LSAMP can cover in-state, out-of-state, and international travel, whether it's to your next **research experience** or a **conference** to present your findings!

WHERE Should You Look for UREs?

UREs can be found **on campus, locally, nationwide, and even internationally**!

Ways to Find UREs:
- Your department office
- Faculty and advisors
- College advising
- Career Services
- Professional organizations/clubs
- Flyers, posters, mailings
- Conferences
- **Internet** searches
- Online databases (**see below!**)
- Friends
- Grad students/alumni
- URA Cal Poly Newsletter

DATABASES for Finding UREs:

National Science Foundation Research Experiences for Undergraduates (REU)
http://www.nsf.gov/crssprgm/reu/reu_search.jsp

Summer Research Experiences for Undergraduates – Pathways to Science
http://www.pathwaystoscience.org/pdf/SummerResearch_WhatWhyApplicationTimeline.pdf

Institute for Broadening Participation – Pathways to Science
http://www.pathwaystoscience.org/programs.aspx

SFSU Undergraduate Internship and Research Opportunities Database
http://www.sfsu.edu/~fellows1/rpt_intern_undergrad.html

Committee on Institutional Cooperation Summer Research Opportunities Program
http://www.cic.net/students/srop/introduction

"Guide to Summer Enrichment & Postbaccalaureate Programs" by the Science Educational Equity Program at CSU Sacramento
http://www.csus.edu/nsm/see/images/summer%20enrichment%20guide%20final%202015.pdf

The Leadership Alliance Summer Research – Early Identification Program
http://www.theleadershipalliance.org/Programs/SummerResearch/HowtoApply/tabid/303/Default.aspx

*Pre-Health Dreamers – Internships that Do Not Require U.S. Citizenship or Legal Permanent Residency
http://www.phdreamers.org/resources/prehealthinternships/

UCSB Research Programs & Opportunities
https://undergrad.research.ucsb.edu/get-started/programs-and-funding/nonucsb/

University of Central Florida Office of Undergraduate Research
http://www.our.ucf.edu/opportunities/summer.php