

REUs and Summer Internships



JUMP Workshop - Winter 2019

“I did an internship during my Master’s **to see if I would enjoy working in industry**. I had always thought I wanted a career in academia, but I **wanted to be sure before I chose a career path**. During my time in industry I ventured into biology and biochemistry, which I had never done before

I discovered a new passion and avenue for my chemistry, which ended up becoming my thesis work for my PhD.

I also realized that I really enjoyed working in industry and I **intend to go back once I finish my PhD**. I encourage everyone to take the opportunity to do internships or REUs. It is valuable experience where you can find something new you enjoy and can help you make **decisions about your future career path.**”

*-Terri Lovell
4th year Graduate Student*

I looked at NSF REU programs because they offered **a chance to try new research, experience chemistry at larger schools, and learn more about grad school**. First, I worked with Dr. David Tyler at the University of Oregon on synthesizing iron phosphine complexes. The next summer I worked with an organic lab at Jackson State University in Mississippi to synthesize anion receptors. **The REUs opened the door for me to have conversations with grad students and faculty about what getting a PhD in chemistry would be like.**

I learned about designing experiments, working up data, and communicating science through my experiences.

The REU programs were also all funded for the summer, which helped make spending the summer doing research more financially feasible.

*-Kiana Kawamura
2nd year Graduate Student*

“I wanted do an internship during my undergraduate career both **in order to obtain industry connections, and see what types of jobs the degree I was working towards would afford me**. After sophomore year, I participated in an internship program with General Electric in their lighting division working on synthesizing a new deep red phosphor. The internship was **procured with the resume our career center helped me polish**, by attending the Career Fair on campus. These initial steps were alone beneficial because **I was able to become acquainted with the job application process in a low-stakes situation**. I was also offered a position to return for a second internship. GE, and many other companies, like to hire from their pool of interns because they know you have experience with how their company functions, as well as internal feedback on your capabilities.

An internship during undergrad can open a lot of doors, and also simply provide you with excellent references and experience for future internships/REUs/jobs.”

*-Jenna Mancuso
2nd year Graduate Student*

Research Experiences for Undergraduates (REUs)

What are REUs exactly?

- Summer research opportunities for undergraduates*
 - Work in research programs of the host institution
 - *Who are still pursuing their degrees (ie not yet graduated)
- Grant (NSF) or donor funded
 - Provide a stipend (amount depends on program)
 - Typically also provide housing (dorms)
 - May or may not cover some meals
 - Cover cost of travel to REU site location

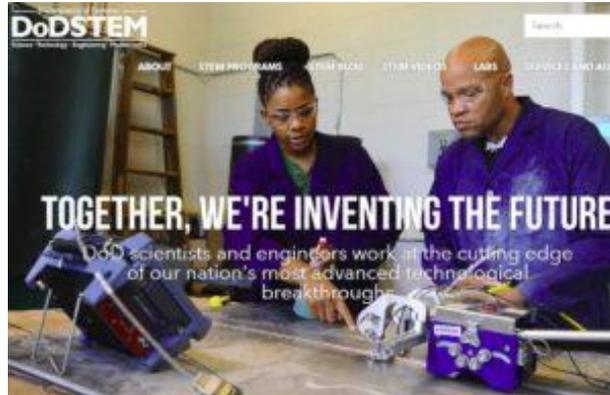


Research Experiences
For Undergraduates

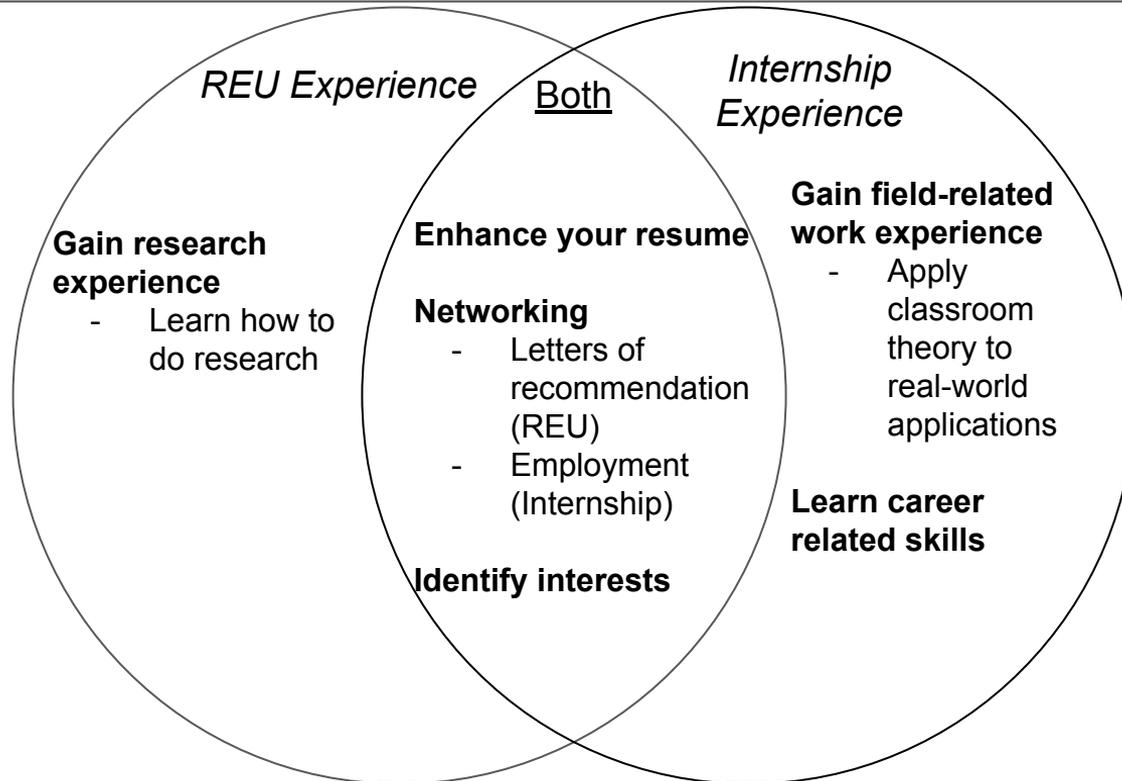
Summer Internships

Hands-on job experience with a given company or institution

- Summer work/research opportunities in your field of interest
 - Can lead to long term engagements
 - Could be invited for another internship or transition into a job
 - Form job connections and gain real-world experience
 - Many companies hire from intern pools



REUs vs Internships - Outcomes



Searching for Opportunities: **REUs**

NSF: https://www.nsf.gov/crssprgm/reu/reu_search.jsp

AAMC: https://www.aamc.org/members/great/61052/great_summerlinks.html

Department of Energy:

<https://orise.orau.gov/stem/internships-fellowships-research-opportunities/undergraduates.html>

Third-party Search Tool:

https://www.pathwaystoscience.org/programs.aspx?descriptorhub=SummerResearch_Summer%20Research%20Opportunity

UO Tool for external opportunities:

<https://uop.uoregon.edu/externalnaturalsciences/>

Searching for Opportunities: **Internships**

Department of Energy: <https://orise.orau.gov>

Science.gov: <https://stemundergrads.science.gov>

Job/Career websites (ex. Indeed, LinkedIn, etc)

Opportunities at UO

OURS* - <http://ours.uoregon.edu/>

Peter O'Day Fellowship* - <https://uop.uoregon.edu/oday-fellowship/>

*Requires pre-existing participation in a UO research lab

Applying

Three major components (REUs):

- Personal statement
- Letters of Recommendation
- Transcripts

Internships:

- CV/**resume**
- References
- Interview

Start early:

to have strong applications you need to put in
the time well before it comes time to apply

Applying: Personal Statement

Be your **unique** self

- What motivates you to do research?
- Don't be cliché!

“...don't rely on what so many applicants bring in – personal anecdotes, especially those about family illnesses.

Or if you do turn it into more than just an emotional anecdote...”

Do your homework

- Refer specifically to the research that interests you

What about this lab/company makes you excited to do research?

- Not a bad idea to email the lab ahead of time

“One of the other most common openings to these essays, however, is the claim to enjoy solving puzzles”

References/Letters of Recommendation

Start thinking early on

- Who?
- Professors are busy, many students ask for these letters all at once so give them plenty of time
- Don't hesitate to remind them of deadlines
- Provide details about yourself and your academic and extracurricular records



1. **Someone who has supervised you in a research setting**
2. **The PI of a research lab you worked in**
3. **A supervisor from a job where you developed applicable skills**
4. **An upper level course instructor**
5. **The head of your honors college**
6. **An instructor from a larger course where you distinguished yourself**

Common mistakes: asking graduate students* or TAs, asking prestigious professors who don't know you

Bad recommendation letters can kill an application.

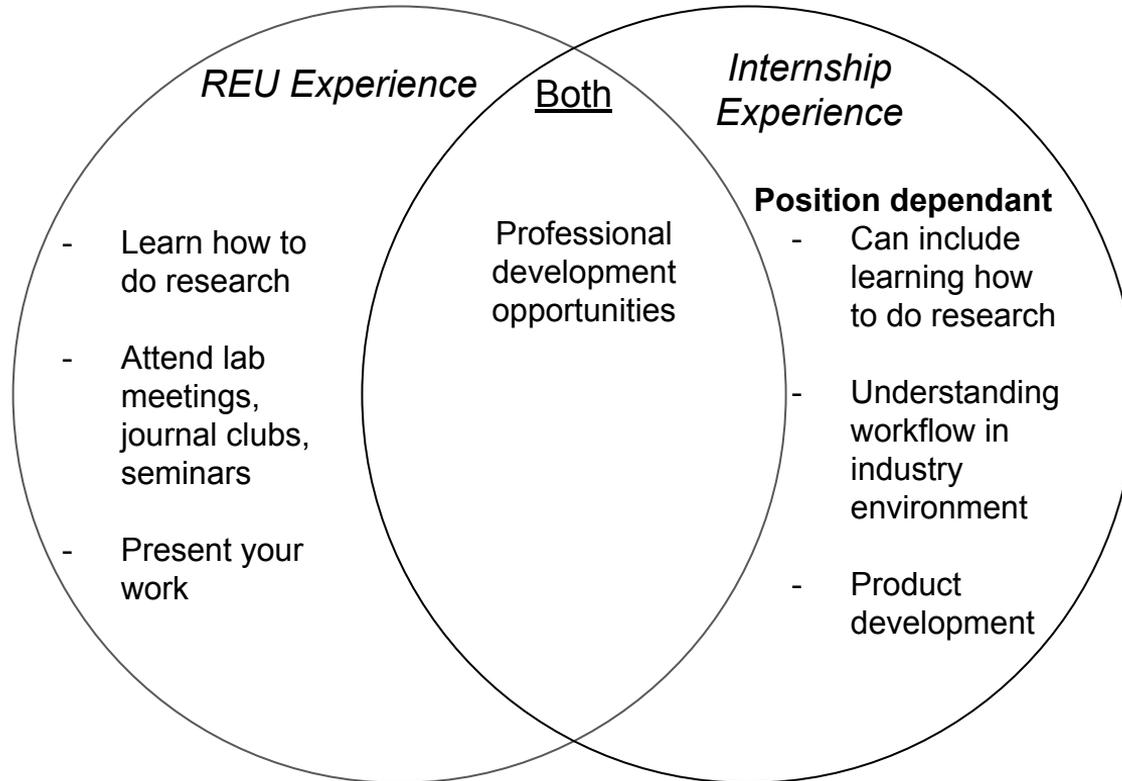
Keep trying!

Many programs have specific intent that has been set up in the grant - they may be targeted to a specific major or often to rising seniors.

Look to someone at your university to get more research experience, and apply again.

Internships can be very competitive, don't give up, but don't submit the same materials. **Learn from past attempts.**

REUs vs Internships - Experiences and What to Expect



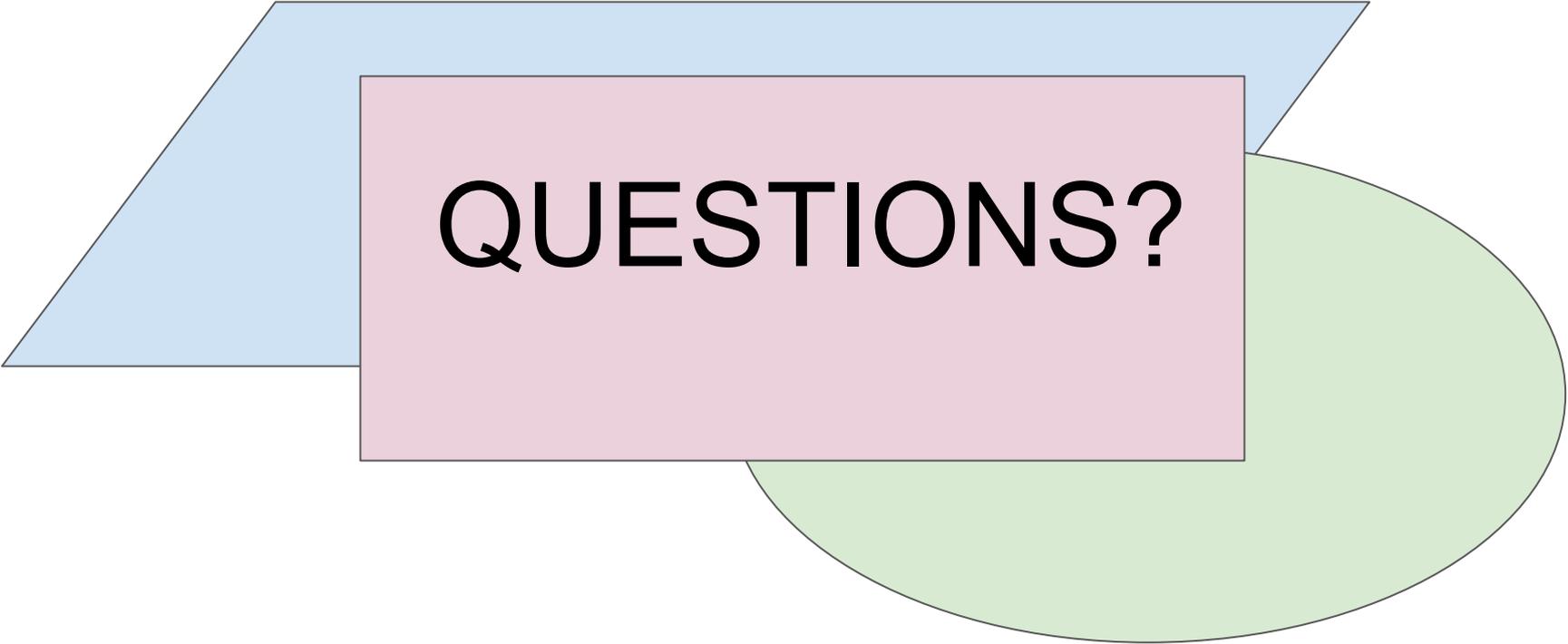
Example REU Experience - *SPUR, University of Oregon*

- Program brings undergraduates from across the country to Eugene for a 10-week summer research experience
 - Housing is provided (dorms)
- Participants are assigned a research lab
 - Lab will assign a research project
 - Lab meetings, journal clubs
- Program Features
 - Faculty seminars
 - Professional development workshops
 - Research discussions
 - Progress reports
 - Field trips (weekends)
 - Research symposium
 - Poster AND Oral presentations
 - Preparation to attend national undergraduate research conferences

Example Internship Experience -

Valspar, Minneapolis MN

- 12-week (summer) internship in Research & Development
- Provide support to scientists within the R&D group
- Complete research documentation, calculations, and data analysis
- Perform basic technical development, tests, analyses, and research based on formulas and project requirements



QUESTIONS?

References:

Application tips: <https://www.nature.com/articles/d41586-018-07830-y>