

A photograph of a laboratory or research facility. The scene shows several workstations with various pieces of equipment, including what appears to be a centrifuge and other lab instruments. There are shelves in the background filled with boxes and supplies. The lighting is bright, coming from overhead fluorescent lights. The overall atmosphere is professional and focused on scientific research.

Getting into Research

PCH Week 3 GM, Spring 2018

| Why Research?

Research as an Undergrad at UCLA

- Hands-on learning about the science YOU care about
- Resume (Applying to Graduate Schools)
 - Letter(s) of rec
 - Publication(s)
- Experience (for future careers)
- Upper Division Credit

Research ≠ Lab Classes (except maybeeee some upper divs)

| Types of Research

1. Basic Science Research

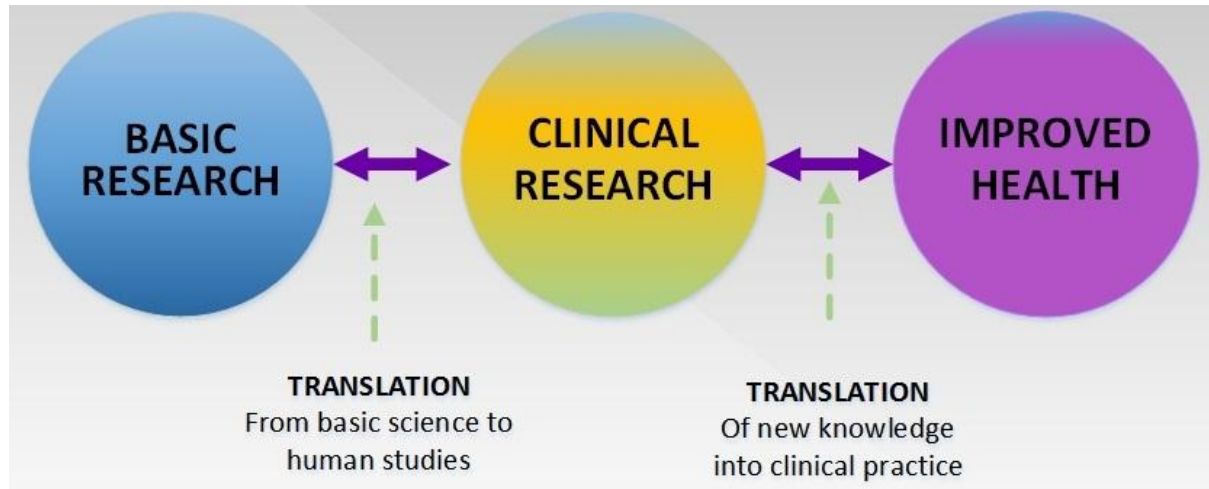
- Often called fundamental research
- Provides foundation of knowledge for applied science
- E.g., how does the human body function in health and/or disease?

2. Translational Research

- Aims to "translate" findings in basic research into medical practice and meaningful health outcomes
 - "Bench-to-bedside"

3. Clinical Research

- Clinical trials
- Involves determining the safety and effectiveness of medications, devices, diagnostic products and treatment regimens intended for human use



Ways to find a lab

1. Emailing PIs (principal investigators)
2. Joining Clubs (EMRA, CURE, PCH???)
3. Biomedical Research Minor

What do you want to work on?

- It's okay to have super broad interests
- If you're interested in it, someone at UCLA's probably studying it
- Wet lab vs. Dry lab
 - Research doesn't always mean bench work
- YOUR RESEARCH DOES NOT HAVE TO MATCH YOUR MAJOR!!!

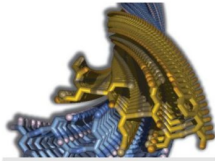
Emailing PIs

UCLA

Graduate Programs in
Bioscience

<http://bioscience.ucla.edu/>

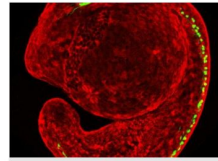
Home Areas



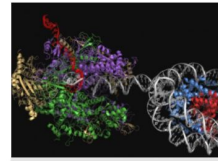
Biochemistry, Biophysics & Structural Biology



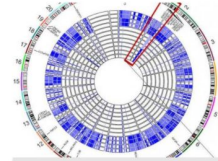
Bioinformatics



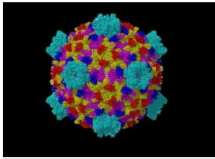
Cell & Developmental Biology



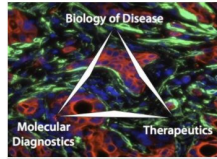
Gene Regulation



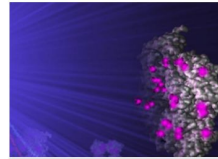
Genetics & Genomics



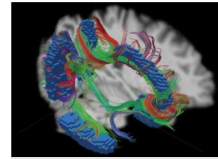
Immunity, Microbes & Molecular Pathogenesis



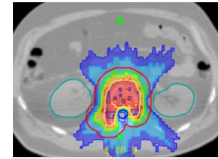
Molecular Pharmacology



Molecular, Cellular & Integrative Physiology



Neuroscience



Physics & Biology in Medicine

Emailing PIs cont.

- You'll probably have to email a lot of PIs
 - Like 15-20+
- Don't take it personally if they don't respond!!
- And don't be discouraged :)
- What to say in your email?
 - Introduce yourself (name, year, major, etc.)
 - Express genuine interest in their work
 - Emphasize long-term commitment

Joining Clubs

- There are many research oriented clubs on campus, including:
 - EMRA - Emergency Medicine Research Associates
 - Stroke Team/Stroke Force
 - These groups are student run (with faculty advisors) and applications are usually VERY competitive.
- [Collaboration in Undergraduate Research Enrichment \(CURE\)](#)
 - Assigned an upperclassman currently doing research as a mentor
 - Meetings involve informational modules about applying to labs, putting together a CV, how to read scientific papers, etc.
- Meeting people in clubs that have connections to labs and/or regularly post lab openings on group social media pages etc. → NETWORKING
- [Search](#) for an organization in UCLA that suits your interests in research

What happens next?

- Interview with the PI (and/or postdoc, grad student you might work with)
 - Prep: helps to be familiar with the broad goals of their work (read their websites/faculty pages/etc.)
 - They won't expect you to know every detail of their work
- Remember they may be interviewing more than one person for the position
- You're also kind of interviewing them: would you want to work with them?
 - Or at least the postdoc/grad student

Biomedical Research Minor

- Take a prerequisite course before applying:
 - **Biomedical Research 5HA**
 - ▶ Would recommend even if not applying
 - Biomedical Research 10H
 - Honors Collegium 70A
- Competitive application process
 - Personal statement (basically, why research?)
 - Interview with faculty member
- Lab placement meeting with Dr. Ira Clark

[Biomedical Research Minor Website](#)

Student Research Project (SRP)

What is SRP?

- Basically getting academic units for doing research
- 99 vs 199 (198 etc)
 - 99: designed as an entry-level experience, particularly suited to lower-division and first-quarter transfer students
 - ▶ Units: 1 to 2
 - ▶ Grading: P/NP
 - 199: for upper division students that are participating in an independent research project leading in most cases to the submission of a thesis or research paper. **198** is the honors version of the 199, and is offered for students going for College/Departmental Honors
 - ▶ Grading: Letter
 - ▶ Units: 4

[URC - Sciences Website](#)

Research Programs

Research Programs (there's money involved \$\$\$)

[Undergraduate Research Center - Sciences Website](#)

During the School Year

- [CARE Fellows/Scholars](#)
 - For those with little to no research experience
- [i²URP](#) (formerly HHURP)
 - Apply fall of junior year
- [MARC](#)
 - Apply end of sophomore year
- [Undergraduate Research Fellows/Scholars Program](#)

Summer

- [Amgen Scholars](#)
- [BISEP](#)
 - For freshmen
- [CARE Summer Research Program](#)
- Some majors have summer research scholarships
- Can also seek out programs outside of UCLA - many universities have them
 - [Gateways to the Laboratory](#) (MD-PhD, Tri-Institutional)
 - **Here's a (long) list!**
 - And [another one](#)

What do we do?

April Pyle's Lab

[Pyle Lab Website](#)

- Studies the ability of human pluripotent stem cells (hPSCs) to differentiate into skeletal muscle cells that may one day be used in cell replacement therapy for muscular dystrophy
- My mentor's project:
 - Understanding and optimizing the skeletal muscle cells we've generated from hPSCs
- My current project:
 - How does the EGFR signaling pathway affect our cells?



What to Expect

- Time commitment
- Independent project vs. doing the same task over and over
- Lab meetings

| Pathways after | Undergrad

Research after Undergrad

Graduate School

- Masters
- PhD
 - Most common careers are in academia or industry
- MD/PhD
 - Physician-scientist

Medical School ([article](#))

- Year off, integrated masters degree, etc.
- Often more clinically related

Our contact information

Jasmine Santos

-Email:

- jasminesantos96@ucla.edu

Katrina Paras

-Email:

- katrina.paras15@gmail.com



Modified Active Member Requirements for Spring Quarter ONLY

6 Hours of Volunteering (not 8)

Announcements!

Thanks to those of you who came to our Medical Outreach Banquet!!!!

Study Hours with Jon and Dev right after GM

Hype Training @ CHS 13-105: Thursday, 4/19, 6-8pm

Preventive Health Site @ North Hills: Sunday, 4/22, 8:30am-3pm

Senior Smiles Site @ Santa Monica: Sunday, 4/22. 3-5pm

Pieology Fundraiser: Wednesday, 4/25, 11am-9:30pm (show the flyer)

Anyone want a shirt?

Look out for more events in our newsletter

Not a part of it? See one of the MR directors or other staff members to add your email to our mailing list