FALL 2021
UNDERGRADUATE RESEARCH SCHOLARSHIPS &
SUMMER OPPORTUNITIES

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TYPES OF RESEARCH

BASIC RESEARCH

• Fundamental research that fills in the knowledge we don't have and provides a foundation for further research

• Usually conducted at a research institute or university

APPLIED / TRANSLATIONAL RESEARCH

• Research that seeks to answer a question in the real world and to solve a specific problem

• Usually conducted in a non-academic setting (industry research)
What to consider before doing research

AVAILABILITY

• How much time do you have to devote to research?
  • Most research labs require a minimum of 12 hrs/wk, for academic credit
  • Academic quarter (1, 2, yr.); summer
  • Class schedule, work schedule, other commitments

ELIGIBILITY

• GPA, major, coursework, or foundational knowledge
• Career path
• Application and research summary
• Citizenship (esp. summer programs funded by grants)
What to consider before doing research

RESEARCH OPTIONS

- **VOLUNTEER** – a few hours a week working in lab and learning about basic research. Help with various tasks in lab. After substantial time in lab, responsibilities will increase.

- **CREDIT** – work at least 12 hrs/wk (4 units) on an existing research project alongside other researchers running experiments. Attend lab meetings and possibly present research.

  - BILD 99 (research every qtr) | BISP 199 (research – every qtr, summer)
  - BISP 196 (Honors – senior yr. only) | BISP 197 (Internship – every qtr, summer)

  [Faculty Mentor Program](#) (Administered by Undergraduate Research Hub)
  [Apply before 199 deadline to participate in program WINTER/SPRING]

- **PAID** – responsibilities similar to “for credit” positions; available on and off-campus.
STAYING AT UC SAN DIEGO FOR THE SUMMER

- **VOLUNTEER or PAID**
  - Research Experience & Applied Learning, [REAL Portal](#)
  - [Handshake](#) (UCSD Career Center’s jobs and internships portal)

- **CREDIT** – work at least 12 hrs/wk on an existing research project alongside other researchers running experiments. Attend lab meetings and possibly present research

[UC San Diego Biological Sciences](#) **BISP 199** (independent research – every qtr, summer)

**BISP 197** (Internship – every qtr, summer)

- Administered through Academic Internship Program
What to consider before doing research

Consider participating in research or an internship in the SUMMER

- Immerse yourself in research/internship full-time
- Maximize your choices: take advantage of national and international opportunities
- Recognition of your achievements, future potential, present yourself well
- Leave your comfort zone
- Compete for scholarships and reduce financial concerns over the summer
HOW TO GET STARTED

Find a mentor and/or a lab

- Research Experience & Applied Learning, REAL Portal
- UCSD divisional and departmental websites: Ex. Biological Sciences
- Search research areas in local research institutes and School of Medicine
  - SALK Institute for Biological Studies
  - Scripps Research
  - Sanford Consortium for Regenerative Medicine
  - UCSD School of Medicine
- Connect with faculty from classes taken
- Graduate TAs and undergraduate IAs
- PIVOT UCSD Faculty Profiles by Research Area
  - https://pivot.proquest.com/profiles
  - (open from a UCSD computer or server, or use VPN; registration & login required)
- UC San Diego Faculty Profiles https://profiles.ucsd.edu/search/
STAYING AT UC SAN DIEGO FOR THE SUMMER

RESEARCH PROGRAMS

● UC Leadership Excellence through Advanced Degrees [UC LEADS]
  ○ Check back later in December for updates

● UC San Diego Summer Undergraduate Research Fellowships (SURF)

● Scripps Undergraduate Research Fellowship, Scripps Institution of Oceanography [SIO]
  ○ Check back in January for Summer 2022 application

● Medical Scientist Training Program, School of Medicine [MSTP]
  ○ check back later in December for updates, usually due late Jan

● SURF Program in Pharmacology, School of Medicine [SURF]
  ○ check back later in December for updates
  ○ usually due early-February
Summer Research Program (SRP) Opportunities

Undergraduate Research Hub (URH)

- Colors of the Brain - Kavli Institute for the Brain and Mind (CoB-KIBM)
  - Winter Quarter application, due March
- McNair Scholars Program (winter/spring/summer)
  - Fall Quarter application (usually due mid-to-late-October)
- Triton Research and Experiential Learning Scholars (TRELS) Program
  - Spring 2022: Opens mid-January, due mid-February
  - Summer 2022: Opens mid-March, due late-April
- UC Scholars/Genentech Scholars
  - Opens mid-December, due February 1
- Undergraduate Research Scholarships (URS)
  - Opens early-December, due February 15
What types of scholarships are available?

- **Eureka!** (basic & translational biology)
- **HIV Institute** (Transgender/Gender Non-Binary Community Health)
- **Hiestand** (SIO and/or Engineering)
- **Howell** (Women’s and Family Health Issues)
- **Julia Brown** (health care, med, pharma, & public health)
- **Belkin** (environment & ecological studies)
- **Chancellor’s** (All proposals)
- **Starbucks** (sustainability)

**NOTE:** Applications close February 15th, 2022 at 11:59pm!

Academic Year Continuing Scholarships also available at [ucsd.academicworks.com](http://ucsd.academicworks.com)
KEY ELEMENTS OF A COMPETITIVE APPLICATION

Meet ALL eligibility requirements (check each scholarship)

• Citizenship, major, career path, must continue as undergraduate in **Fall 2022**.

• Have a letter of recommendation from faculty mentor/research sponsor

• Write a persuasive Research Proposal (if required)

• Write an effective Personal Statement

• Have a strong GPA (typically 3.0+, each application may vary)
KEY ELEMENTS:

Letter of Recommendation

• Potential significance of your project

• Review of your qualifications to carry out the project

• Advisor’s assessment of your potential to make contributions to the field

• Comparison to other students faculty has mentored

• Statement noting if you need or do not need Internal Review Board (IRB) approval—Human Subjects Research

https://urs.ucsd.edu
KEY ELEMENTS:

Research Proposal

• Title
• Research question: the goal of the work; the potential significance of the project
• Preliminary work accomplished and/or relevant experience
• Methods or theoretical/critical frameworks you will use, with appropriate citations
• Timeline of the work you expect to accomplish over three months (Summer 2022)
• Statement noting if IRB approval is needed or not (human subjects research)
• List of references cited

Note: Maximum number of words: 1000 (reference list not included in count)
UNDERGRADUATE RESEARCH SCHOLARSHIPS (URS)

ELIGIBILITY FOR PARTICIPATION

- No summer session classes (session 1 or 2)
- Not allowed to have a job concurrently
- Cannot take research for credit at the same time
- Cannot be part of any other research program
- Not able to apply if participating in BS/MS program

OTHER RESEARCH PROGRAMS

- May have similar restrictions, check with the individual program

https://urs.ucsd.edu
RESEARCH INTERNSHIP OPPORTUNITIES
OFF-CAMPUS

Colleges and Universities

Government & other agencies

Industry

International

Supersites

Note: Some of the research opportunities we will discuss in following slides may not have updated deadlines on their site at this time. We highly encourage you to revisit these websites after researching the program information, typically updated in December.
RESEARCH INTERNSHIP OPPORTUNITIES
OFF-CAMPUS

COLLEGES AND UNIVERSITIES

• Amgen Scholars - Host institutions in the U.S.
  • UCLA, UC Berkeley, Stanford, Harvard, National Institutes of Health (NIH), Caltech, UT Southwestern, Washington University in St. Louis, Columbia-Barnard, Yale, UC San Francisco, Duke, Johns Hopkins University
  • No research experience necessary
  • Work full-time
  • Financial support provided (varies with campus)
• Leadership Alliance Summer Research Early Identification Program (SR-EIP) (due Feb 1, 2022)
  • Primarily East coast schools, including private schools
  • Stipend, travel and housing included
• Biomedical and Pre-Med Research: compiled by Rochester Institute of Technology
• UC Natural Reserve System: California Ecology & Conservation (due Feb 11, 2022)
GOVERNMENT & OTHER AGENCIES

- National Sciences Foundation – NSF
  - Research Experiences for Undergraduates (REU)
- National Institute of Health – NIH
  - https://www.training.nih.gov/programs/sip
- Centers for Disease Control and Prevention
  - Undergraduate Public Health Program (CUPS)
  - NCEH/ATSDR Summer Internship Opportunities
- United States Environmental Protection Agency – EPA
- HHMI Janelia Farm: Undergraduate Scholars Program
INDUSTRY

• Genentech: Summer Internships (international students are eligible)

• The Scripps Research Institute (TSRI): Summer and Academic Year Programs

• La Jolla Institute for Allergy and Immunology (LIAI): biomedical research

• Novartis: Students and Scholars

• SALK Institute for Biological Studies

• Sanford Burnham Prebys (Medical Discovery Institute)

• J. Craig Venter Institute: Students Internships
RESEARCH INTERNSHIP OPPORTUNITIES
OFF-CAMPUS

INTERNATIONAL

● **Study Abroad UC San Diego**
  - TRELS Study Abroad *(will open in Winter 2022)*
  - UCEAP - **Research opportunities abroad**
  - many other opportunities!

● **Undergraduate Research Scholarships (URS)**
  - create your own opportunity!

● **Alternative Breaks (CSI) UC San Diego**
  - service learning trips varies year by year

● **Amgen Scholars** - **Host institutions in Asia** *(not affiliated with UC San Diego)*
  - Kyoto University (Japan), National University of Singapore, The University of Tokyo (Japan), Tsinghua University (China)

● **IES Abroad**: Study Abroad with full-time and part-time internships *(not affiliated with UC San Diego)*

● **Backdoorjobs.com (Global Volunteer Network)**: **short-term work, travel and learn** *(not affiliated with UC San Diego)*
SUPER SITES: include various universities, institutions, and organizations

- **Pathways to Science**
  - Includes opportunities for international students

- Undergraduate Research Opportunities Program (UROP): compiled by UC Irvine

- Biomedical and **Pre-Med** Research: compiled by Rochester Institute of Technology
Other resources

• **UC Education Abroad Program: Scholarships**

• A one-stop resource to find funds for training in the sciences and undergraduate science education:
  • Community of Science
  • GrantsNet.org
  • Grants.org
  • Scholarships.com
  • Science Magazine: scholarship supersites

• **Professional Associations:**
  • American Physiological Society (APS), American Society for Microbiology (ASM), Association for Women in Science (AWIS)
Building Skills

- Microtomes - how to read a research paper
- Learn coding/statistics
  - R
  - Python
  - Java/C/C++/C#
  - bash
- Update your LinkedIn/CV/Resume
- Volunteer to do small projects with a faculty/postdoc/graduate student
- Presenting your research

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<thead>
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<th>Event</th>
<th>Location</th>
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<tr>
<td>Summer Research Conference @ UC San Diego</td>
<td>Harvard’s NCRC</td>
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<tr>
<td>Undergraduate Research Conference (URC)</td>
<td>National Conference on Undergraduate Research (NCUR)</td>
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<td>Biology Research Showcase</td>
<td>Stanford Research Conference - Stanford</td>
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<td>UC San Diego College-hosted</td>
<td>West Coast Biological Sciences Undergraduate Research (WCBSUR) Conference</td>
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Building Community

- **Student-Led**
  - BioScholars BioTechathalon
  - Microtomes - Grantathon
  - BMES - Lab Expo
  - Saltman Quarterly Publishing Opportunities
    - blogging, online reporting, science communication
  - UC San Diego Climate Review

- **Networking/mentorship**
  - BSSA Mentor/Mentee Program
  - Biology Undergraduate and Masters Mentorship Program (BUMMP)
  - Association for Women in Science (AWIS)
What’s next…

➢ Identify programs and scholarships for which you are eligible

➢ “Don’t put all your eggs in one basket”
  ○ Apply to more than one opportunity

➢ Start early - some deadlines are in December!
  ○ Use your time to together a competitive application
  ○ Many applications require a letter of support

➢ Utilize campus resources to write personal statements and research proposals
  ○ Teaching + Learning Commons: Writing Hub
    ■ Scheduled online synchronous and in-person appointments
Save the date!

Exploring Careers in Life Science Conference

Saturday, January 29, 2022
What’s next...

UC San Diego
UNDERGRADUATE RESEARCH HUB
SUMMER RESEARCH PROGRAM OPPORTUNITIES

Find out about paid research opportunities in all fields supported by the Undergraduate Research Hub! URH staff will also describe the application process for these programs.

DECEMBER 1, 2021
2:00 - 3:00 PM

tinyurl.com/SummerResearchDec1

For more information contact Dr. Kirsten Kung - kkung@ucsd.edu
Need Help?

Sophia Tsai @ stcai@ucsd.edu, 858-534-9014

Applying to Undergraduate Research Scholarships

Undergraduate Research Hub (URH)

Matt Haack @ dobio@ucsd.edu

Student Engagement Opportunities in Biological Sciences