

Summer Research Opportunities for Undergraduates from Underrepresented Groups: Life and Physical Sciences, Mathematics, Engineering, and Social Sciences

Maryland Center for Undergraduate Research
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The logo for the Maryland Center for Undergraduate Research (MCUR) is a vertical rectangle with a red background and white text. The letters 'M', 'C', and 'U' are stacked vertically, with 'R' at the bottom. The 'R' is partially cut off by the bottom edge of the logo.

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Why do undergraduate research?

- Allows you to get a fuller understanding of your major and of how discoveries are made
- Learn new skills, processes, and programs/applications
- Opportunity to develop professional contacts and friendships within your major/career path
- Provides highly relevant, desirable experience for graduate school & medical school applications

Common features of undergraduate summer research programs:

- Summer programs with large numbers of placements are available in STEM fields and the Social Sciences
- Many larger programs like the NSF's take place at multiple locations, usually on research university campuses or at government labs
- Opportunities to experience research full-time (40 hours/week for 8-10 weeks)
- You take part in an established research project supervised by professional researchers in a university department or other lab – usually as part of a team of 10-12 summer researchers
- Sizeable stipends (\$3,000-\$6,000), often room/board and travel costs
- Many programs prefer sophomores or juniors, or students with previous research experience, but others are open to freshmen and beginners – [read guidelines carefully](#)



If you don't have research experience yet, now is a great time to get started here at UMD before applying to outside programs....

- Begin by talking with your major advisor and your course professors in your major or related fields
- Learn about the kinds of research professors in your major do
- Make a plan: identify potential professors/labs and contact them several weeks before the start of the semester
- Use the Maryland Student Researchers database of campus opportunities here: www.ugresearch.umd.edu
- Talk to your professors and friendly grad student TA's!!!



If you are ready to apply for summer research programs:



- These programs require a formal application process including essay(s), transcripts, and letters of recommendation (usually 2)
- These programs are competitive: Apply to at least 5-6 options that are a good match for your skills/interests/goals
- Deadlines usually are in January or February, so plan ahead!!!
- Some programs require prior research experience, a minimum GPA (usually 3.0 or above), and course prerequisites: read pre-reqs carefully
- Most programs target current sophomores and juniors; some are open to qualified freshman – again, read guidelines carefully
- Seniors may be eligible for some programs

Summer Research Opportunities for Minorities and Underrepresented Student Groups:

- Programs seeks to diversify the students who participate in research and graduate study
- STEM fields seek to attract more women to disciplines that have historically been predominantly male
- STEM and Social Sciences also want to encourage students from a diverse racial/ethnic background to enter these fields and pursue graduate study
- Other programs also encourage applications from other underrepresented groups including: first-generation college students, low-income applicants, military veterans, students of non-traditional age, and others



Summer Research Opportunities for Minorities and Underrepresented Student Groups:

- Leadership Alliance
 - Example: Harvard Summer Honors Undergraduate Research Program (SHURP)
- BTAA SROP (Big Ten Academic Alliance Summer Research Opportunities Program)



...and many more opportunities listed on the MCUR website!!!!



The Leadership Alliance

<http://www.theleadershipalliance.org/programs/summer-research>

- Broad definition of diversity : low income, life experience, etc.
- Research areas including humanities, social sciences, and STEM fields
- Submit top 3 choices of institutions where you want to research
- Local sites including Howard University, UMBC, Johns Hopkins
- Eligibility:
 - Completed at least 2 semesters of college, or have 1 semester left
 - GPA of 3.0 and above
 - Interest in pursuing graduate study (PhD or MD-PhD)
 - U.S. citizen or permanent resident
- Benefits:
 - Stipend, and travel/housing expenses from the research institution
- Deadline: February 1

Participating Institutions:

- Brown University
- Columbia University
- Dartmouth College
- Harvard University
- Howard University
- Hunter College
- Johns Hopkins University
- New York University
- Princeton University
- Stanford University
- Tufts University
- University of Chicago
- University of Colorado Boulder
- University of Maryland, Baltimore County
- University of Miami
- University of Pennsylvania
- University of Virginia
- Vanderbilt University
- Washington University in St. Louis
- Weill Cornell Programs
- Yale University

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An example of a Leadership Alliance Research Program:

Harvard Summer Honors Undergraduate Research Program (SHURP),
<http://www.hms.harvard.edu/dms/diversity/shurp/index.html>

Location: Harvard University Medical School, Boston, Massachusetts

Fields: Sciences, Medical Sciences, Biology, Biomedical Research

Eligibility:

- Currently-enrolled UGs considering careers in biological/biomedical research
- One summer/semester experience in research lab
- Completed upper-level biology course that includes molecular biology
- U.S. citizenship or permanent residency is required. Students apply through the Leadership Alliance.

Funding: \$4,500 in stipends, housing in medical school dorm, and \$600 travel

Deadline: February 1



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BTAA-SROP (Big Ten Academic Alliance - Summer Research Opportunities Program)

<https://www.btaa.org/students/srop/introduction>

- Seeks to increase number of underrepresented students who pursue graduate study and research careers
- SROP prepares students for graduate study through intensive research experiences with faculty mentors and enrichment activities
- Fields: All fields
- Eligibility:
 - U.S. Citizen/permanent resident, enrolled full-time
 - GPA of 3.0 or above
 - Completion of at least 2 semesters of UG with at least 1 semester left
 - Intent on pursuing a PhD
- Some institutions accept [shared BTAA application](#), others require application to institution
- [Benefits](#): Stipends of \$3,000-\$6,000 for summer plus housing and travel; some institutions also pay for meals
- Deadline: February 10

Participating Institutions:

- University of Illinois at Urbana-Champaign
- Indiana University
- University of Iowa
- University of Maryland
- University of Michigan
- University of Minnesota
- University of Nebraska-Lincoln
- Northwestern University
- Ohio State University
- Pennsylvania State University
- Purdue University
- Rutgers University
- University of Wisconsin-Madison

Examples of Summer Undergraduate Research Programs open to all students:

- National Science Foundation (NSF) Research Experiences for Undergraduates
- National Institute of Standards and Technology (NIST) Summer Undergraduate Research Fellowships (SURF)
- Amgen Scholars
- Lawrence Livermore National Laboratory Summer Internships
- And many more!!!



National Science Foundation Research Experiences for Undergraduates (REU's)

- Hundreds of opportunities in most Science, Math, Engineering and Social Science fields
- NSF-funded researchers receive extra funds to bring in 10-12 students each summer
- Students apply directly to each REU site – separate application for each!!!
Directory of REU Sites: http://www.nsf.gov/crssprgm/reu/reu_search.jsp
- Eligibility: U.S. citizens or permanent residents
- Benefits: Students receive generous stipends and for most sites, housing and travel expenses also
- Deadlines vary depending on the research site – usually in January or February for the following summer



National Science Foundation
WHERE DISCOVERIES BEGIN



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National Institute of Standards and Technology (NIST) Summer Undergraduate Research Fellowships (SURF)

- NIST Research Campuses in Gaithersburg MD, and Boulder, CO
- Hundreds of STEM placements – 30+ UMD Students annually
- Application is through the UMD **Engineering Co-op and Career Services Office**: www.coop.eng.umd.edu/
- Eligibility:
 - Open to students in science, mathematics, and engineering
 - Must apply through your university
 - Must be a U.S. citizen or permanent resident to apply
- Benefits: \$5,500 stipend and allowances for travel and housing
- Deadlines: **February 7** in **Engineering Co-op and Career Services Office**



Amgen Scholars

www.amgenscholars.com

- Dozens of opportunities for Life Sciences and Related Fields at major U.S. research universities
- Eligibility:
 - U.S. citizens or permanent residents
 - Sophomores, juniors, or non-graduating seniors.
 - Cumulative GPA of 3.2 or above
 - Strong interest in pursuing a PhD or MD-PhD
- Deadline: Early February, with the exception of CalTech, which is mid-February
- Funding: Varies by institution



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Lawrence Livermore National Laboratory Summer Internship Programs, internships.llnl.gov

- Federal laboratory in Livermore, California hosts 300-400 undergraduate and graduate interns each summer
- Multiple programs include the Summer Internship Program, the Computation Scholar program for computer science students, Engineering Technology, and Physical and Life Sciences
- Eligibility:
 - Minimum GPA of 3.3 with 3.5+ preferred
 - Most programs require U.S. citizenship
- Benefits:
 - Competitive salaries based upon students' degree discipline and academic standing according to a salary schedule
 - Students must make housing arrangements; housing opportunities are listed on the program's website



Maryland Summer Scholars Program

www.ugresearch.umd.edu/summerscholars.php

- Propose your own summer project, mentored by a UMD faculty member
- Project can take place on campus, in the U.S., or abroad, depending on the requirements of your research
- About 30 awards of \$3,000 made each summer; up to \$1,000 more for travel
- Results presented at Undergraduate Research Day the following spring

Eligibility:

- Applicants must have completed 30 credits by Spring 2016 (freshmen, sophomores, juniors and returning seniors are eligible)
- GPA of 3.4 or above
- Applications due on [February 8](#)



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There are many, many more summer research opportunities than the ones we featured:

- Check with your major department to find out about additional opportunities. Often summer research programs will send flyers to departments for posting on bulletin boards and email announcements for listserv distribution
- Ask your advisor if he/she can recommend summer research opportunities and programs, particularly those that former students and advisees have completed.
- Read your Email and major department listserv messages!!! Many summer opportunities are advertised that way
- Lastly, please feel free to make an appointment with the MCUR office by emailing ugresearch@umd.edu

Check out these links especially on the MCUR Website:

- Research in DC Area: www.ugresearch.umd.edu/researchindc.php
- Research in the U.S.: www.ugresearch.umd.edu/researchinus.php

IMPORTANT!!! Advice for Completing a Competitive Summer Research Application:

www.ugresearch.umd.edu/researchpositions.php

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