

Summer Research Opportunities for Undergraduates: 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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MARYLAND CENTER FOR UNDERGRADUATE RESEARCH



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

Examples of Summer Undergraduate Research Programs

- 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!!!



Common features of undergraduate summer research programs:

- 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 in 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:

- 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-regs 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



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
- Deadline: **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 Cal Tech, 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 [February 8, 2017](#)



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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 this 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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