SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATES FROM UNDERREPRESENTED GROUPS: LIFE AND PHYSICAL SCIENCES, MATHEMATICS, ENGINEERING, AND SOCIAL SCIENCES

MARYLAND CENTER FOR UNDERGRADUATE RESEARCH
1201 MARIE MOUNT HALL• UGRESEARCH@UMD.EDU
WWW.UGRESEARCH.UMD.EDU
WHY DO UNDERGRADUATE RESEARCH?

• Get hands-on experience in your field
• Understand how discoveries are made
• Learn new skills, procedures, and computer programs
• Develop professional contacts and friendships, useful for later recommendations and networking
• Great experience for graduate school & medical school
IF YOU DON’T HAVE RESEARCH EXPERIENCE YET, NOW IS A GREAT TIME TO GET STARTED HERE AT UMD WHILE CONSIDERING OUTSIDE PROGRAMS.…

• Begin by talking with your major advisor, grad student TAs, and course professors about what research is being done in your major

• Contact people you might like to work with several weeks before the start of the semester
  • Tell them why you're interested in working with them and what skills you bring to the table

• Use the Maryland Student Researchers database of campus opportunities here

MARYLAND CENTER FOR UNDERGRADUATE RESEARCH
www.ugresearch.umd.edu
MARYLAND STUDENT RESEARCHERS (MSR)

- The MSR database is a great way to learn about research projects that are actively looking for undergraduate student assistance.
- Many MSR projects are open to beginners and provide training; others specify any required skills or background.
- About 150 projects are listed on the MSR database each semester.
- You can search for listed opportunities in your subject of interest here.

MARYLAND CENTER FOR UNDERGRADUATE RESEARCH

www.ugresearch.umd.edu
IF YOU ARE READY TO APPLY FOR SUMMER RESEARCH PROGRAMS:

• Formal application process including essay(s), CV, 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 or graduating seniors—again, read guidelines carefully
COMMON FEATURES OF UNDERGRADUATE SUMMER RESEARCH PROGRAMS:

• Many larger programs take place at multiple locations
• Research full-time for 8-10 weeks
• Take part in an established research project supervised by professional researchers, usually as part of a team of 10-12 summer researchers
• Sizeable stipends ($3,000-$6,000), many cover room/board and travel costs
• Read guidelines carefully. Many programs have strict GPA and citizenship requirements, some prefer sophomores or juniors, or students with previous research experience
• Main purpose is to help students, especially underrepresented students, prepare for PhD and MD programs
SUMMER RESEARCH OPPORTUNITIES FOR MINORITIES AND UNDERREPRESENTED STUDENT GROUPS:

- Programs seeks to diversify the students who participate in research and graduate study, particularly PhD and MD/PhD programs.
- Underrepresented students includes:
  - Women in STEM
  - Diverse racial/ethnic background
  - First-generation college students
  - Low-income applicants
  - Military veterans
  - Students of non-traditional age
  - Students with physical disabilities
  - And others
SUMMER RESEARCH OPPORTUNITIES FOR MINORITIES AND UNDERREPRESENTED STUDENT GROUPS:

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

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

MARYLAND CENTER FOR UNDERGRADUATE RESEARCH www.ugresearch.umd.edu
THE LEADERSHIP ALLIANCE
THELEADERSHIPALLIANCE.ORG

Participating Institutions:
- Brown University
- Columbia University
- Cornell University
- Dartmouth College
- Harvard University
- Howard University
- Johns Hopkins University
- New York University
- North Carolina A&T State
- 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
- Yale University

- Includes hands-on summer research, a national symposium, and ongoing skill building and mentorship after the summer ends.
- Research areas include applied math, computer science, education (UVA only), engineering, humanities, life sciences, math, physical sciences, psychology, and social sciences.
- Applicants submit 1 application with resume, statement of purpose, two recommendation letters, official transcripts, and list of preferred research sites.

Eligibility:
- Have completed at least two semesters and have at least one semester remaining of their undergraduate education by the start of the summer.
- GPA of 3.0 or above.
- Interest in pursuing graduate study (PhD or MD-PhD).
- U.S. citizen or permanent resident.

Deadline: February 1

Benefits: Stipend, and travel/housing expenses from the research institution.

Maryland Center for Undergraduate Research
www.ugresearch.umd.edu
AN EXAMPLE OF A LEADERSHIP ALLIANCE RESEARCH PROGRAM:

Eligibility:
- Rising sophomore, junior, or senior
- US citizen or permanent resident

Deadline: February 1

Funding: $3,000 stipend plus housing

• Johns Hopkins School of Medicine Summer Internship Program (SIP)
• Fields: biomedicine and public health
• Components include hands-on research, related reading, group meetings, poster presentation
BTAA-SROP (BIG TEN ACADEMIC ALLIANCE - SUMMER RESEARCH OPPORTUNITIES PROGRAM)
BTAA.ORG/STUDENTS/SROP/INTRODUCTION

**Participating Institutions:**
- University of Illinois at Urbana-Champaign
- 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

- Includes hands-on research, workshops about research skills and graduate school preparation, end-of-summer symposium, and enrichment activities
- Research areas include STEM, social sciences, and humanities
- Application requirements vary by school. Not all institutions accept shared BTAA application

**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
- Strong interest in pursuing a PhD

**Deadline:** February 10

**Benefits:** Stipends of $3,000-$6,000 plus housing and travel; some institutions also pay for meals
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!!!
Eligibility: U.S. citizens or permanent residents

Deadlines: Vary depending on the research site – usually in January or February for the following summer

Benefits: Students receive stipends and for most sites, housing and travel expenses also

• Hundreds of opportunities in most STEM 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!!!
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)
SUMMER UNDERGRADUATE RESEARCH FELLOWSHIPS (SURF)
NIST.GOV/SURF

- Open to students with physics, material science, chemistry, applied mathematics, computer science, or engineering majors
- Students should be considering MS or PhD
- NIST Research Campuses in Gaithersburg, MD and Boulder, CO
- Hundreds of students at 7 facilities—30+ UMD students annually
  - Nanoscale, Neutrons, Communications, Information, Engineering, Material Measurement, and Physical Measurement
- Application is through the UMD Engineering Co-op and Career Services Office’s Careers4Engineers: www.coop.eng.umd.edu

Eligibility:
- Must apply through your university
- Must be a U.S. citizen or permanent resident to apply
- Must have a 3.0+ GPA

Deadline: February 7 in Engineering Co-op and Career Services Office

Benefits: $5,500 stipend and allowances for travel and housing
AMGEN SCHOLARS
AMGENSCHOLARS.COM/

• Students conduct research in Life Sciences and Related Fields, attend seminars and socials, and meet at an end-of-summer symposium
  • Includes biology, bioengineering, genetics, medicine, neuroscience, statistics, chemistry and more
• Hosts about 200 students at 10 major U.S. research universities
  • Including Caltech, Columbia, Harvard, MIT, NIH, and others

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: February 1, with the exception of Cal Tech, which is mid-February

Benefits: $3,600-$6,000 plus housing and some meals and travel. Varies by institution
LAWRENCE LIVERMORE NATIONAL LABORATORY SUMMER INTERNSHIP PROGRAMS

INTERNSHIPS.LLNL.GOV

- Federal national defense laboratory in Livermore, California hosts 300+ undergraduate and graduate interns each summer
- Opportunities in engineering, physics, computer science, and other physical and life sciences, as related to counterterrorism, energy, and biosecurity

**Eligibility:**
Minimum GPA of 3.3 with 3.5+ preferred
Most programs require U.S. citizenship

**Deadline:** Varies

**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.
THERE ARE MANY, MANY MORE SUMMER RESEARCH OPPORTUNITIES THAN THE ONES WE FEATURED!

- Pay attention to department listserv messages and postings on bulletin boards
- Ask your advisor if he/she can recommend summer research opportunities and programs, particularly those that former students and advisees have completed.
- Check out these links especially on the MCUR Website:
  - Research in DC Area: http://www.ugresearch.umd.edu/current-DCresearch.html
  - Research in the U.S.: http://www.ugresearch.umd.edu/current-research-us.html
- Lastly, please feel free to make an appointment with the MCUR office by emailing ugresearch@umd.edu or bmulder@umd.edu