

Research Opportunities in STEM Handout | 2015

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Possible Areas of Research:

- Astronomical Sciences
- Atmospheric and Geospace Sciences
- Biological Sciences
- Chemistry
- Computer & Information Science and Engineering
- Cyberinfrastructure
- Department of Defense
- Department of Energy(CCI)
- Earth Sciences
- Education and Human Resources
- Engineering
- Ethics and Values Studies
- International Science & Engineering
- Materials Research
- National Security Agency (NSA)

Steps to Finding a Research Opportunity:

- 1) Decide which locations you would consider
- 2) Decide what research area(s) you would like to pursue or consider
- 3) Research REU Sites & Deadlines
- 4) Get organized and prepare materials
- 5) Submit applications

Parts of a Research Internship Application:

- Biographic Information
- References/ Letters of Recommendation
- Transcripts
- Honors, Awards and Extracurricular Activities
- Statement of Interest
- Resume/ Curriculum Vitae (CV)

Tips for a Successful Application:

- Ensure that your application is complete
- Request letters of recommendation approximately four weeks before they are due
- Have one or several people review your application prior to submission

Eligibility for an NSF-funded Research Experience for Undergraduates:

- Must be a U.S. National, U.S. Citizen or Permanent Resident of the United States or its territories.
- Students must contact the individual NSF REU sites for information and application materials.

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Online Resources:

- Institute for Broadening Participation (IBP) Pathways to Science: <http://www.pathwaystoscience.org/index.asp>
- Directory of active REU Sites sponsored by the National Science Foundation (NSF): http://www.nsf.gov/crssprgm/reu/reu_search.cfm
- U.S. Department of Energy Community College Internships: <http://science.energy.gov/wdts/cci/>
- City Colleges of Chicago, STEM: <http://www.ccc.edu/departments/Pages/Science-Technology-Engineering-and-Math.aspx>
- Hispanic Association of Colleges and Universities (HACU) National Internship Program: <http://www.hacu.net/hacu/HNIP.asp>

How To Get the Most Out of Your Research Opportunity:

- Follow the lab and data collection procedures carefully and record detailed notes in your lab notebook.
- Ask questions and read background literature to understand the WHY and the HOW of the research.
- Participate in lab meetings, symposia and other events to develop your science communication skills.
- Be patient as you learn about how real research differs from science learned in your classes.
 - Understanding the process of science is as important as your research findings.
- Research questions are open-ended –experiments don't always work. Use those opportunities to learn.
- Approach the opportunity with enthusiasm and seriousness: listen well, and be ready to learn and contribute.
- Mentors are often busy – learn to work independently and seek help from other researchers in the lab.
- Think through your approach, step-by-step and carefully & objectively analyze your data.
- Take advantage of opportunities to interact & connect with scientists in your lab and at the university.

Professionalism:

- Arrive on time
- Complete tasks assigned to you
- Meet deadlines
- Communicate with the supervisor on your progress
- Ask for feedback
- Work as a part of the team
- Graciously accept compliments
- Don't use lab resources or time for personal matters

As You Prepare to Leave:

- Prepare a report or presentation on your research
- Provide access to your notes and computer
- Schedule a performance review
- Thank your mentor and others in the lab for the opportunity
- Request a letter of recommendation from your supervisor or mentor, if appropriate.