

# Research Opportunities in STEM

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**Student Center for Science Engagement**



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# Student Center for Science Engagement

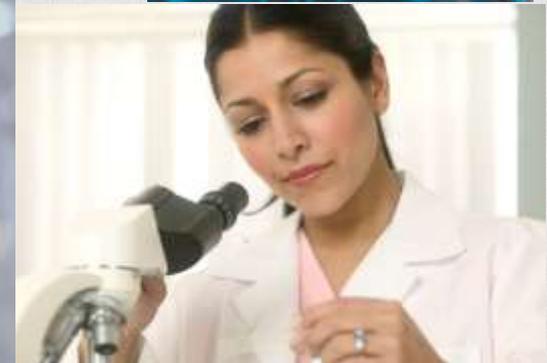
- Tutoring
- One-on-One Professional Advising
- Workshops & Seminars
- Guest Speakers
- Research Opportunities
- Travel to Conferences
- GRE Preparation Course
- Assistance with Applications to Internships, Jobs & Graduate School
- Study space for students in math & science majors
- Partnerships with the Field Museum and the U.S. Department of Agriculture
- Primarily serves the following departments:
  - Biology, Chemistry, Computer Science, Earth Science, Mathematics & Physics.
  - New Major in Spring 2015: Environmental Science

# NEIU STEM Student Successes

- Internships
  - Google
  - Field Museum
  - Nature Museum
- Research
  - Harvard University
  - Stanford University
  - Northwestern University
  - University of Illinois
  - Purdue University
- Graduate School
  - Johns Hopkins University
  - University of California – Berkeley
  - University of Hawaii
  - University of Michigan
  - University of Puerto Rico
- Careers
  - Intel
  - Wrigley/Mars
  - Allstate

# What Is An REU?

- Research Experience for Undergraduates (REU)
- Work with Faculty and Other Researchers on a Specific Research Project
- Paid Opportunities with Funding Provided by the National Science Foundation (NSF)
- Available Across the U.S. & in International Locations



# 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)
- And Many Others

# Benefits of Participating in an REU

- Explore An Area of Science in Depth
- Valuable Lab Experience
- Build Skills & Strengthen Your Resume
- Helpful in Pursuing a Career in the Sciences or Graduate/Professional School
- Networking with Professionals



# Steps to Finding an REU



- 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 an REU Application

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



# Statement of Purpose

- How will this research experience benefit you in terms of your
  - General Science Interests
  - Future Academic Pursuits
  - Career Goals
- Why do you want to participate in this specific research opportunity?
  - Is there a certain scientist with which you want to work?
  - Is it in a specific research area you would like to pursue?
  - Are you interested in exploring a research area not available at your college?

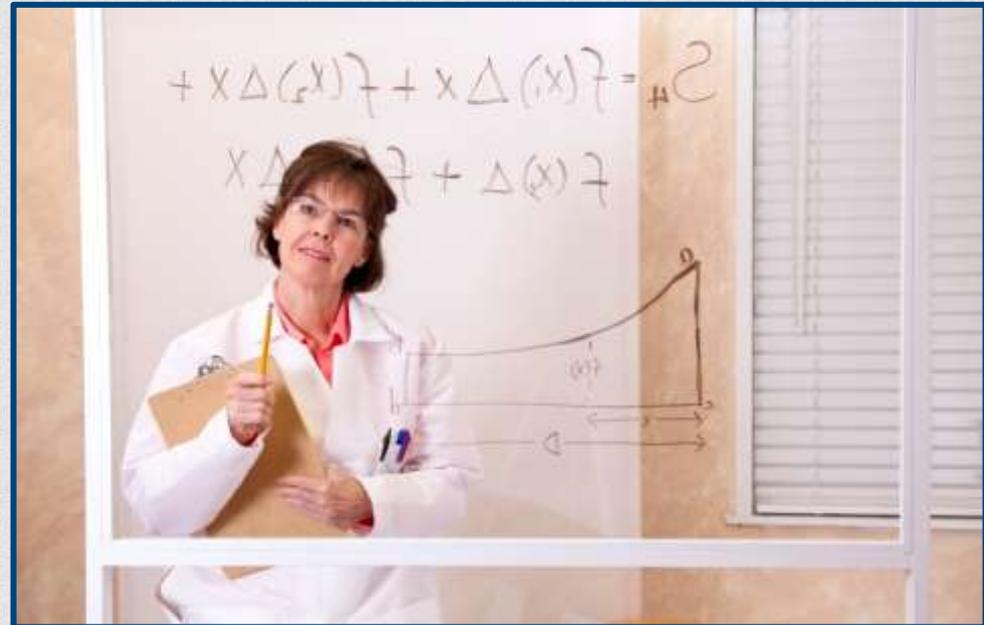
# Tips for a Successful Application



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

# Applying After the Deadline or at an Odd Time of Year?

- Join professional organizations and contact other members
- Attend scientific conferences or other events to network with researchers
- Find faculty at universities in your area of interest and contact them directly
  - You may need to begin conducting research on a volunteer basis
  - It may be possible to work out a stipend depending on the lab's budget situation



# Eligibility for NSF-Sponsored REU's

- Students must apply directly to the individual NSF REU sites (not NSF).
- Status as a U.S. National, U.S. Citizen or Permanent Resident of the United States or its territories.
  - There are other research opportunities with different criteria.
  - Volunteer research opportunities are available for those who do not meet these criteria.



# Online Resources

- 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](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 Science, Technology, Engineering and Math (STEM) Webpage: <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 From Your REU (Part 1)

- 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 HOW and the WHY of the research.
- Participate in lab meetings, symposia and other events to develop your scientific 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 results.

# How to Get the Most From Your REU (Part 2)

- Research questions are open-ended –experiments don't always work. Use those instances as 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, when needed.
- Think through your approach, step-by-step, and carefully & objectively analyze your data.
- Take advantage of opportunities to interact with scientists in your lab and at the university, laboratory or company.

# Mentoring & Networking Opportunities



- Build connections and relationships with people in your lab and at the university or organization where the lab is located
- Ask the Principal Investigator (P.I) and other researchers for advice on:
  - Coursework
  - Graduate School
  - Careers
  - Work-Life Balance

# 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
- Do not 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 mentor (if appropriate)



# After the REU



- Send a thank you note to your mentor.
- Stay in contact via email or phone during the school year. Follow up to ask for advice or letters of recommendation.

# STEM Transfer Event

- **Who:** Transfer Students Interested in Science, Math, Psychology, or Pre-Health Majors at Northeastern Illinois University (NEIU)
- **What:** An event to learn more about the transfer process to NEIU, connect with science and math departments, meet students, and learn about resources and opportunities to become involved
- **When:** Friday, April 10, 2015, 1-3:30pm
- **Where:** Main Campus of Northeastern Illinois University (NEIU)
  - Bernard Brommel Hall & Student Union

Thank you!  
Any Questions?

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