

Research Experiences for Undergraduates (REU) – funded by the National Science Foundation

Please note the different application deadlines

Program: *BioTechnology-based Sequencing-based Undergraduate Research Experience (BIT SURE)*

Institution: North Carolina State University, Raleigh, NC

Description: This REU Site award to North Carolina State University (NCSU), located in Raleigh, NC, will support the training of 10 students for 10 weeks during the summers 2018-2020. The Biotechnology (BIT) Sequencing-based Undergraduate Research Experience (SURE) immerses students in research that uses next generation sequencing (NGS) to answer important biological questions. NCSU's interdisciplinary BIT Program, which combines researchers, educators and students from 35 departments, will sponsor BIT SURE. Research mentors will engage students in projects across a variety of fields including microbiology, virology, neuroscience, plant biology, epigenetics, genomics, etc. Trainees will begin with a NGS short course where they will receive laboratory safety training, work on NGS case studies, prepare samples for sequencing, and analyze data using common bioinformatic tools and software. Participants will also attend seminars on NGS research, biotech careers, graduate school, responsible conduct of research, and visit biotech companies in Research Triangle Park.

Website: <http://biotech.ncsu.edu/pages/nsf-reu#top>

Application deadline: February 14th, 2020

Program: *Spatial Models and Electoral Districting*

Institution: University of Washington, Tacoma & University of Puget Sound

Description: The Spatial Models and Electoral Districting REU offers the opportunity for a diverse set of students to work collaboratively on a topic of immense societal and political importance — electoral districting in the United States. With the 2020 census, new electoral and representational districts will be drawn across the country and this program offers undergraduate students the opportunity to engage directly at the forefront of complex research questions and public communication of results. The directors of the program would like to strongly encourage students currently enrolled at community colleges and smaller colleges with limited research opportunities to apply. The program intends to build a community of publicly engaged researchers and professionals that includes students from the same underrepresented groups that are often most affected by electoral districting. The primary aims of the REU site for participants are: (1) training in cutting-edge computational and mathematical techniques; (2) a unique interdisciplinary approach that blends advanced techniques in mathematics and computer science with social theoretical knowledge from the social sciences; (3) a deep, nuanced understanding of the complexities of districting within the United States at exactly the time when redistricting is occurring; and (4) training in the clear and persuasive communication of research and policy papers on the complexities of electoral districting within the United States.

Website: <https://www.tacoma.uw.edu/smed/nsf-reu-site-spatial-models-electoral-districting>

Application deadline: February 14th, 2020

Program: *Research Institute in Sociology and Social Inequality*

Institution: Texas A & M University, College Station, TX

Description: Our REU Summer Institute “Research Institute in Sociology and Social Inequality” gives undergraduate students the opportunity to gain a better understanding of the patterns, nature, causes, and consequences of social disparities through hands-on participation in research projects supervised by leading faculty researchers. The program is supported by the National Science Foundation for the purpose of promoting undergraduate experiences in social science research. Students in our program will gain the opportunity to be involved in research that documents the patterns and nature of social disparities and investigates its causes and consequences with the goal of identifying ways to arrest current trends and provide benefits more broadly across all groups, particularly the socially vulnerable. Students will be directly involved in faculty research projects and they will participate in an advanced seminar in social science research methods to improve skills documenting and analyzing social disparities. Students also will have the opportunity to learn about graduate training programs and careers in social science research to pursue their program interests in the long run.

Website: <https://liberalarts.tamu.edu/sociology/2019/11/22/research-experience-for-undergraduates-reu-nsf/>

Application deadline: February 15th, 2020

Program: *Animal Behavior: Mechanisms, Cognition, and Evolution*

Institution: Indiana University, Bloomington, IN

Description: A small group of undergraduate students—usually about 10—comes to Indiana University each summer to engage in animal behavior research that involves neuroscience, cognitive science, and molecular approaches as well as traditional fieldwork and behavioral analysis. This work is made possible through the Research Experience for Undergraduates (REU) in Animal Behavior.

Website: <https://animalbehavior.indiana.edu/research/reu/index.html>

Application deadline: February 15th, 2020

Program: *The Language of Science and the Science of Language*

Institution: Ohio State University, Columbus, OH

Description: For your research experience, you will be assigned an OSU faculty member or graduate student and their advisor, as a mentor. You’ll work on an existing research project with them. At the end of the program, you’ll prepare and present a poster on the work. For the outreach component, you’ll use our set of interactive demos to introduce museum visitors to the science of language. You might invite them to play a video game, which shows them the Stroop Effect, or teach them about different aspects of communication systems using dinosaurs. At the end of the program, you’ll develop and present your own new activity that teaches visitors something about language. The program runs for ten weeks, from May 18 to July 24. Students are expected to attend all classes and scheduled research and outreach hours. Students with summer plans involving significant travel during the run of the program will not be a good fit for the program. The time commitment is 35 hours per week throughout. During the first two weeks of the program, these hours will be set for all students and consist primarily of classroom sessions, held between 10AM and 5PM Monday – Friday. After the first two weeks, hours will be split between classroom time and hands-on research and outreach. The latter will be scheduled on a week-by-week basis, during the hours COSI is open to the public (10AM-5PM daily).

Website: <https://u.osu.edu/blnsummer/>

Application deadline: February 21st, 2020

Program: *Immigration and Border Community – Research Experience for Undergraduates*

Institution: New Mexico State University & University of Texas-El Paso

Description: The NSF-REU Site Program on Immigration Policy and Border Communities is a unique opportunity to learn social science research methods while collaborating with local organizations to conduct in-depth research about the unique challenges faced by border communities in the Paso del Norte region of southern New Mexico, El Paso and Ciudad Juárez. The U.S. Mexico border is currently at the center of political controversy, one that has threatened to further disrupt border cities that were once closely integrated. Immigration is an important part of the Paso del Norte region and the increase in border enforcement has significant impacts not only on those passing through the border, but those who live here as well. This is a unique opportunity for undergraduate students to learn social science research methods through hands-on collaboration with local organizations about border enforcement and its impacts on immigrants and border communities.

Website: <https://www.utep.edu/liberalarts/bordercommunity/>

Application deadline: February 28th, 2020

Program: *ASPIRE Program*

Institution: University of Pittsburgh, Pittsburgh, PA

Description: The mission of Human Engineering Research Laboratories (HERL) is to continuously improve the mobility and function of people with disabilities through advanced engineering in clinical research and medical rehabilitation. The ASPIRE Research Experience for Undergraduates (REU) program is designed to promote greater involvement and understanding of Rehabilitation Engineering and assistive technology – while fostering an understanding of the problems faced by individuals with disabilities. This results in a greater ability to apply engineering principles to improve the quality of life, which promotes a higher degree of inclusiveness and greater functionality for people with disabilities. Each REU participant will work directly with HERL faculty and graduate students to help transform the lives of individuals with disabilities.

Website: <https://www.herl.pitt.edu/education/undergrad/aspire>

Application deadline: February 28th, 2020

Program: *Comparative and Developmental Origins of Social Cognition*

Institution: Yale University

Description: The REU program has both scientific and societal benefits integrating research and education. The broad goal of the Comparative and Developmental Origins of Social Cognition REU Site is to provide students from under-represented backgrounds with joint training in developmental and comparative psychology research. Students will gain experience investigating the origins of human social cognition from two different but related perspectives: developmental studies testing human children's social understanding and comparative studies examining social cognition in domesticated dogs. The REU is coordinated by Psychology professors Dr. Laurie Santos and Dr. Yarrow Dunham. REU students will have a rare opportunity to participate in all aspects of the research process: research design, subject recruitment, stimulus generation, data collection, data entry, coding, and statistical analysis. In addition, students will have the opportunity to interact as colleagues: participating in weekly lab meetings, reading current literature, contributing to theoretical discussions regarding the comparative and developmental origins of social cognition, and attending a professional development series focusing on topics such as applying to graduate school, getting the most out of your undergraduate career, etc. Students will meet weekly with a graduate student mentor, and the PI and co-PI will attend bi-monthly social events. Please note that

students must commit to the full 40 hrs/week 10 week program, and must commit to working a number of weekends.

Website: <https://doglab.yale.edu/NSF-REU>

Application deadline: February 29th, 2020

Program: *Social Network Analysis for Solving Minority Health Disparities*

Institution: University of Nebraska, Lincoln

Description: Funded by the National Science Foundation, the Minority Health Disparities Summer Research Experience for Undergraduates is an interdisciplinary program aimed at conducting cutting edge social and behavioral research into understanding and reducing health disparities and in diversifying minority health researchers. This project takes place under support of a Summer REU grant from the National Science Foundation for research in social network analysis (SNA) and minority health. As part of that program, participating students will learn basic approaches to network science/SNA in order to employ these skills where possible in their summer research projects. SNA instruction will take place during a 2-week intensive class led by Kirk Dombrowski (Professor of Sociology, UNL), scheduled for the first two weeks of the program. Training will be used to enrich the students experience in their partner laboratories during the subsequent 8 weeks. The primary student outcome of this part of the summer research experience will be an introductory facility in social network terminology, visualization, and exploration.

Website: <https://mhdi.unl.edu/mhdi-reu>

Application deadline: March 1st, 2020

Program: *Training Diverse Undergraduate Teams of Veterans and Non-Veterans to Conduct Trauma Research with Veterans*

Institution: Syracuse University, Syracuse, NY

Description: This program for undergraduates is designed to improve access to research experiences for groups typically underrepresented in research (namely, veterans) through the creation of a Research Experience for Undergraduates (REU) site. The program is purposefully structured to span one full year. First, students will have a 2-week online orientation followed by an intensive six-week summer program on site at the Syracuse University, Syracuse, NY campus involving coursework, mentored student-faculty interactions, and the development of a research project. This program will take place May 18th – June 25th, 2020. Participating students receive a \$3,370 stipend for attending this summer session. Room and board are provided free of charge, as needed. Out-of-state participants are also eligible for some assistance in travel costs to and from Syracuse – please inquire as needed. Please contact us regarding the potential for bringing family to stay with you as well. Second, students are expected to continue their research, from their home institution, under the mentorship of REU faculty during the Fall semester. Finally, students are expected to present their research at a national or international conference in Fall or Spring. The travel and registration expense for the conference is provided to the student through this program. This program is designed to bring together veterans and non-veterans in a safe environment as we pursue trauma research activities.

Website: <https://traumaresearch.syr.edu/>

Application deadline: March 1st, 2020

Program: *UNCC Crime Analytics*

Institution: University of North Carolina at Charlotte, Charlotte, NC

Description: This NSF summer program is designed for undergraduate students who want “hands-on” research experience and for those who are interested in pursuing graduate degrees or careers in fields such as Computer Science, Criminal Justice, Crime Analysis, Analytics, and Data Science. The program is targeted to undergraduate students who are rising sophomores and juniors. Nine students will be selected to participate, and students from underrepresented groups, HBCUs, and community colleges are strongly encouraged to apply. The intellectual focus of the CA-REU is on advancing research related to crime analytics within an interdisciplinary framework. The CA-REU will be modeled around team-based learning pedagogical concepts where students will be selected and assigned to interdisciplinary research teams of faculty. The CA-REU student participants will be required to fully participate in all aspects and activities of the research experience. They will be expected to contribute in research group meetings, discussions with research and peer mentors, and participate in the enrichment activities and workshops that are intended to supplement the research experience.

Website: <https://crime-analytics.uncc.edu/>

Application deadline: March 2nd, 2020

Program: *Preservation Archaeology Field School*

Institution: Archaeology Southwest & the University of Arizona

Description: Our innovative curriculum highlights the goals, ethics, and practice of Preservation Archaeology, which integrates research, education, and preservation within a community-based framework. We share what we learn throughout the project with the public via local events, blog posts, and other venues. Together, students and staff explore ethically responsible and scientifically rigorous field and research methods while investigating compelling questions about our shared past. In 2020, students will participate in test excavations at the Gila River Farm site near Cliff, New Mexico. People lived in this adobe pueblo during the Cliff phase (A.D. 1300–1450). Artifacts and architecture here show a mix of influences, including traditions originating in northeastern Arizona’s Kayenta area (part of the Ancestral Pueblo homelands), or from various local Mogollon groups before 1300. At the Gila River Farm site, community members participated in a multiethnic ideology that we call Salado. Our research is focused on understanding how different earlier traditions combined under this ideology and allowed people of various cultural backgrounds to live together. Key questions include what kinds of pottery the site’s residents made and used and how this changed over time, how they used local plants and animals, and where they obtained raw material for stone tools, particularly obsidian.

Website: <https://www.archaeologysouthwest.org/things-to-do/field-school/>

Application deadline: March 6th, 2020