

Research Experiences for Undergraduates (REU)

PNW-COSMOS recognizes that participating in a Research Experiences for Undergraduates (REU) program can expose students to research early in their academic careers, and connect them with faculty and graduate students in a graduate program, thus beginning the exploration of an advanced degree option. REU's are usually during the summer months and applications open mid-December.

We created a list of REUs for the Summer of 2018 at PNW-COSMOS institutions and from our External Advisory Board member's institutions.

Please click the links for more information on the specific REU.

PNW-COSMOS REUs:

Montana State University

- [Astronomy & Space Physics](#): Most projects involve analysis of data from space missions such as [Yohkoh](#), [SOHO](#), [TRACE](#), [RHESSI](#), [Hinode](#), [SDO](#), and [IRIS](#), and ground-based observatories. Experience has shown that data analysis projects are suitable for most undergraduates at the sophomore or junior level. Additionally, each year there are a few opportunities in the solar-stellar connection, solar magneto-hydrodynamics, and space hardware development. Program will run from June 4 – August 10, 2018. Contact Dr. [Jiong Qiu](#) for more information. **Applications open December 2017.**
- [Electrical & Computer Engineering](#) – Most projects in this program involve developing and using optical and acoustic techniques to understand the world around us. 8-10 positions will be offered, see [listing of research projects](#). Program will run from June 4 – August 10, 2018. Dr. [Kevin Repasky](#) the [REU site: Observing our world with light and sound](#) for more information. **Applications open December 2017.**
- Research and Development of Algorithms in a [Software Factory](#) – Most projects in this program involve real-world, innovative and interdisciplinary research focused on networks research and network modeling with application to sustainability (i.e., pan-genomics, mobile social network, topological data analysis, etc.). Program will run from June 4 – August 10, 2018. Contact Dr. [Clemente Izurieta](#) for more information. **Applications open late December 2017.**

Washington State University

- [Engineering Tools](#) for Disease Diagnosis and Treatment – This new summer research experience for undergraduates (REU) site will train undergraduate scholars to develop or utilize engineering tools to diagnose and/or treat diseases. The program will run from May 29 through August 3, 2018. Contact Dr. [Nehal I. Abu-Lail](#) for more information. **Applications are due February 16, 2018.**

External Advisory Board REUs:

UC Berkeley/ University of San Francisco

- [Mathematical Sciences](#) Research Institute was started by three UC Berkeley mathematics professors in 1978. Currently, it is housed at University of San Francisco, the 2018 MSRI theme is Mathematics of Data Science. The research program will be focused on the core role of (linear) algebra in current research and application areas of Data Science ranging from unsupervised learning, clustering and networks, to algebraic signal processing and feature extraction, to the central role linear algebra plays in deep machine learning. The project topics will be driven by the areas of interest of the students (environmental, social, economic), limited only by access to relevant data. The program will run from June 16 – July 29, 2018. **Applications are due February 15, 2018.**

University of Maryland, Baltimore County

- Summer [Biomedical](#) Training Program– Cross-disciplinary research experience in biological sciences, biochemistry, chemistry, mechanical engineering, psychology, chemical and biochemical engineering and physics, for students interested in pursuing a Ph.D. in biomedical or behavioral science. Contact [Justine Johnson](#) for more information. **Applications are due March 1, 2018.**

University of Michigan

- [Chemistry](#) – Programs are available in all subjects areas offered by the Chemistry Department, please check the website for a detailed list. Program runs from May 30 – August 7, 2018. Please contact Dr. [Brian Coppola](#) for more information. **Applications are due February 9, 2018.**
- [Mathematics](#) – There are no set dates or topics, students are selected to participate in the program based on their research interests and mathematical background. Students selected to participate will work with their faculty mentor to determine the project start and end date beginning after May 1st and ending by August 31st (or August 15th for external students). The projects range anywhere from math modeling in the sciences and engineering, running computer simulations or computer experiments to solving abstract and conceptual problems, depending on the background and the interests of student and faculty member. **Applications open late November 2017.**
- [Pharmacy](#) – The University of Michigan Interdisciplinary REU Program (Research Experiences for Undergraduates) in the Structure and Function of Proteins is designed to provide undergraduate students with a 10 week research experience in the areas of biochemistry, biophysics, cheminformatics, computational chemistry, enzymology, marine biology, molecular biology and plant biology. The research projects featured in this program all involve studies of the structure and function of proteins. Program runs from May 30 – August 3, 2018. **Applications are due February 15, 2018**