The Research Experience for Undergraduates Program in Solar and Space Physics at the University of Colorado

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REU at Boulder
A unique environment

In this collaborative approach to an REU program, the Boulder Solar Alliance (BSA) members from HAO, SWPC, CoRA, SwRI, and LASP, with additional aide from the Cooperative Institute for Research in Environmental Sciences (CIRES) have combined efforts to support student mentoring. This gives students broad exposure to:

- Mentors from various disciplines of the solar and space physics fields
- Exposure to different institutes
- A variety of graduate students with diverse research experience
- Science as a collaborative effort

Abstract

The Research Experience for Undergraduates (REU) program in Solar and Space Physics is a collaboration between the University of Colorado's Laboratory for Atmospheric and Space Physics (LASP), the National Center for Atmospheric Research's High Altitude Observatory (HAO), The National Oceanic and Atmospheric Administration's Science and Technology Prediction Center (SWPC), Southwest Research Institute (SwRI), and Northwest Research Associates (NWRA). The goal of the program is to give students real-world, hands-on experience doing research with scientist mentors and to further their intended careers.

Our program began in 2007 and is entering its sixth year. Mentors from of the member institutions have supervised over 70 research projects dealing with all aspects of Solar and Space Physics. The students begin their 8-week visit to Boulder with a week of classes on the Sun-Earth system as well as practical courses on data analysis and the IDL programming language. The students give a 30 minute oral presentation of their project as well as a poster in a student symposium at the end of the program. Throughout the summer, the students give progress reports at weekly lunches rotate from site to site. There are also opportunities for students to network with scientists in an informal way at the excursions we organize which include barbecues and weekend outings.

For more information, visit our website at: http://lasp.colorado.edu/education/reu

REU in Solar and Space Physics

Data collection

- Observations
- In situ science
- Peer Support
- Instrumentation

Social interaction

- Access to Mentors at all BSA institutes
- Access to university faculty mentoring
- Social interaction helps foster community collaboration during the program and for years to come!
- Students live together in apartment dorms
- Mentor/Student BBQ mixers at beginning and end of session.
- Organized weekend activities
- Social networking using Facebook.

Highlights

- Publishable work in an 8-week period
- Full week of courses on solar and space physics
- Student Symposium:
  - Oral Presentation (30 min)
  - Poster Presentation
- Gain practical skills (programming languages, writing, presentation and poster skills)
- Access to world-class research facilities and researchers they may not have at their home institutions

Demographics of Students and Projects

72 total in first five years

- Students:
  - 42 Male/30 Female
  - 50 Research Universities (RU/RH) / 32 Others (DRU)
  - 59 White/4 Black/7 Asian/1 Native American/1 Hispanic


What Students Are Saying

...a valuable and eye-opening experience for me. I learned a great deal about my own personal career interests.

...I would ask that future REU students be paired with [my mentor] if at all possible.

...other people at NOAA [helped me]. I couldn’t have done it without them.

...a truly awesome research experience.