

Explorations in Statistics Research:

An Undergraduate Summer Program

June 19-26, 2010

National Center for Atmospheric Research, Boulder

Applications due: March 3, 2010

Applications and reference forms available at:

www.stat.berkeley.edu/~summer

Organizers

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This program is made possible by a grant from the National Science Foundation.



Today, almost every aspect of our lives is “rendered” in data. New data collection technologies have made it easy to record continuous, high-resolution measurements of our physical environment (weather patterns, seismic events, the human genome). We’re also constantly monitoring our movements through and interactions with our physical surroundings. In computer-mediated settings, our activities either depend crucially on or consist entirely of complex digital data (networked games, peer-to-peer technologies, Web site and Internet usage).

These data-based descriptions of our world tend to be massive in size, dynamic in character, and replete with rich structures. The advent of these enormous repositories of information presents us with an interesting challenge: how can we represent and interpret such complex, abstract and often socially important data?

This workshop is designed to introduce undergraduates to the exciting work being done in statistics – the science of data. Over the seven-day program, we will explore scientific questions using statistical approaches ranging from simple summaries to more sophisticated modeling approaches. We will use the computer to explore relevant data to better understand and discover the underlying scientific features. The topics may include

- Environmental statistics
- Earth and space science
- Text and document analysis

Through computer labs that draw on each day’s application, students will receive a basic introduction to statistical computing, providing them with the skills to perform fundamental data manipulations, conduct exploratory analyses and create informative visualizations.