The IRIS Undergraduate Internship Program Gets “Orientated” with New Funding from NSF

Michael Hubenthal • IRIS Consortium; Rick Aster • New Mexico Tech

The IRIS Undergraduate Internship Program is an intensive, weeklong orientation that is a new addition to the Internship Program. The program is designed to increase interns’ awareness of the IRIS community, its activities, and general current Earth science.

The goal of the new week-long orientation is to provide interns with an introduction to some of the most exciting aspects of modern seismology and to foster a strong sense of community prior to sending them to their internship sites to conduct their summer research. New Mexico Tech was selected as the site for the initial student orientation because of its excellent location for field experiences in the Rio Grande rift valley, its research and computational facilities, its extensive field equipment and the availability of dormitory housing. Scientists from IRIS and the broader Earth science community shared their time and expertise to lead a variety of interactive intern-development sessions designed to enhance student understanding and to improve student collaboration. Topics included in the intensive orientation program included:

- A broad overview of seismology, seismometry, and related fields such as geodetics and cutting-edge research topics;
- A refraction-based field experiment and data analysis project;
- Field trips to regional tectonic/geo-logic sites in central New Mexico;
- An IRIS internship alumni/careers panel discussion with participants ranging from incipient graduates to long-standing professionals and academics;
- Primers in focal mechanisms, geophysical inverse theory, and receiver functions;
- Computer programming for signal processing and waveform analysis using the Matlab software and;
- A comprehensive tour of the IRIS PASSCAL Instrument Center.

In addition to introducing new science content, the IRIS internship orientation included ample opportunities for interns to get to know one another, have fun and make friends. These included evening social activities; shared dorms; pool night featuring “bad geophysics” movies; field trips to the New Mexican desert and Albuquerque Seismological Lab; a tram ride to the top of the Sandias Mountains, with an afternoon talk on extensional tectonics; and an afternoon to explore the New Mexico Museum of Natural History and to see the Everest IMAX film. At the end of the week, all the interns agreed the orientation had been a fun and valuable experience that helped them feel prepared to get the most out of their summer experience. Perhaps most importantly, the majority of the interns felt that one of the best parts of the orientation was getting to be “part of a group.”
CONNECTING THROUGH TECHNOLOGY

Face-to-face contact is no longer the only way to connect individuals working on related problems as a community of learners. In 2002, 81% of all U.S. institutions of higher learning offered at least one fully on-line or “blended” course (combined face-to-face and on-line media in distance learning). This translates into over 1.6 million students gaining experience with distance learning by taking at least one on-line course during the fall of 2002 alone [Allen et al., 2003]. Hence, current technology and recent research on distance learning and building on-line learning communities, combined with a generation of students that are comfortable using technology to communicate and learn, makes the time ripe for IRIS to help students maintain a sense of cohesion despite being placed throughout the U.S. for their internships. To ensure that this connection occurs, a key aspect of the orientation agenda was several sessions that provided training in the use of web-based message boards and blogs.

These tools are used to maintain contact between interns during the summer and as a source of peer-based assistance and collaboration. At the beginning of the summer, interns responded to specific questions in their blogs posed by Andy Frassetto, a graduate student mentor who is an alumnus of the IRIS internship program. Such questions focused on encouraging interns to identify goals for the summer and to develop plans with their hosts to reach these goals. To date, the use of blogs by the interns has ranged from a post every week to every other day. For the most frequent users, the blogs transitioned from responses to questions into a documentation of the students’ thinking including planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task. The blogs also allowed internship hosts to gain insights into interns’ current thinking and development.

The internship discussion boards enable students to quickly and easily post topics of interest or reply to posts from their peers. Most on-line discussions were both initiated and responded by the interns, though the intern alumni offered advice, directed interns to additional resources or made suggestions. Topics of discussion from this summer have ranged from the social “How is it going?” to technical discussions of the easiest way to get data from the IRIS Data Management Center and parse it into usable quantities to conceptual discussion on subjects like tremor. The discussion boards remain available to the students throughout the fall semester to help encourage interaction between the students as they prepare for the Fall AGU Meeting where they will present the results of their summer work.

The interns will meet again as a group at the IRIS Undergraduate Internship Alumni Gathering held during the AGU meeting.

For further information on the IRIS Undergraduate Internship Program, how to participate in 2007, and the 2006 orientation agenda, or to view the lab activities used by orientation staff, please visit: www.iris.edu/internship

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REFERENCES
