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Hands-on Field Experience and Career Training in Oceanography

One of the biggest challenges we face as community college instructors is preparing our students for careers; this is especially true in geoscience fields because people are generally not familiar with the discipline and they do not typically know anyone who is a geoscientist. Further, community colleges do not typically have research programs where students can gain exposure to geoscience research and/or field applications.

Through collaborations with 4-year University and research faculty, I have found a way to provide some experiences to prepare my students for geoscience careers and to showcase some examples of people working in the geosciences. As an example, I have been working on a collaborative project with, Dr. Matthew Schwartz, a colleague at a regional 4-year university. This project is a unique education effort that links my community college students to oceanographic research through the development of a new course in Aquatic Environmental Science and has been funded by the National Science Foundation. The course is centered around several field trips to a local estuary, during which students learn to use field instruments to measure water quality variables (temperature, salinity, dissolved oxygen, and nutrients). The capstone of each field trip is a floating classroom during which students and instructors discuss summary results, test field hypotheses, and compare results with historical data collected during previous field trips. A unique aspect of the course is that Schwartz and one of his graduate students help me lead the field trips so that my students get to develop a relationship with them that builds throughout the semester. This connection of community college students with scientists working in the field promotes better understanding of research and provides a “snapshot” of a potential career path in the geosciences. Additionally, this program provides a very unique experience for my students to gain some hands-on experience and career training (i.e., field and analytical techniques, graphing and data interpretation, etc.) that is difficult to provide at a community college.

A hurdle specific to community colleges is the disconnect between faculty experience and student outlooks. More specifically, a geoscience faculty member at a two year college typically has a Masters or PhD degree from a research institution and has predominantly been exposed to geoscience careers that require advanced degrees. On the contrary, their students may not be able to see beyond a two-year degree program. Such a dichotomy makes it difficult for faculty to counsel their students and offer insight into possible geoscience careers. This problem may be especially true in my own field of Oceanography, where typically even Bachelor-level degree programs are scarce. I have been considering hosting a *Geoscience Career Day* to introduce students to potential careers in the geosciences. The keystone of this event would be a panel of people working in the geosciences with a range of education levels. Each panel member could discuss a typical day in his/her job, education background, typical salary range, etc. and students would have an opportunity to ask further questions.