Working with Industry

On the Cutting Edge: Early Career Geoscience Faculty Workshop – June 2012

Presented by

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Introduction:

Although the majority of us have made a conscious lifestyle decision to embrace academia, close ties to industry can still be beneficial for our research, teaching, and for the students that we advise. We will discuss ways in which mutually beneficial relationships with industry can be fostered that can produce excellent research experiences for students, opportunities to bring in industry experts for teaching, provide sources of student scholarships funds, and supplement funding for your research program. Examples of a variety of opportunities are presented.

What we will do:

This session will be discussion based. We will go through the points below and examine some of the different ways in which you can collaborate with industry.

Why work with Industry:

1) **Government (e.g. NSF, DOE) funding, though excellent when you get it, can be hard to come by.**
2) **It is often relatively easy to fund several small projects that may provide a good source of supplemental funding for students.**
3) **These projects can add variety to your research program.**
4) **Collaboration with industry provides a means for your students to work directly with the people that may hire them.**
5) **There are various educational opportunities for your students – e.g. short courses, having industry personnel give departmental talks, or even classes.**
6) **Access to state of the art software and hardware resources.**

Examples of different types of collaborations:

1) Jointly writing a proposal with an industry partner – e.g. to a funding agency such as the Department of Energy.
    - Some funding agencies are very amenable to this – especially if that partner has a specific expertise that will move the project forward quickly.
2) Contracting with an industrial partner to achieve the goals of a project.
    - Examples include having a partner drill a well, shoot a seismic survey, etc.
3) Receiving funding from an industrial partner to carry out a specific task.
    - You have an area of expertise that is of interest to industry. Being able to frame this such that you can provide direct assistance to an industry project is mutually beneficial. Although this may not directly contribute to your research program, it can be a good way to get support for students.
4) Receiving research funding form an industrial partner.
    - Many companies (especially in the energy industry) like to work with academia to move research projects forward (for mutually beneficial reason). Typical concerns are that data

are not public and so cannot be published. However, this can often give you access to excellent datasets.

5) Receiving funding from the foundation of an industry partner.
    - Many big corporations (e.g. Halliburton, ExxonMobil) have foundations that you can write proposals to. Halliburton has an educational foundation that provides support for projects focusing on K-12 outreach and the support of university level education. Beware of the rules that your university foundation office places on submitting proposals to foundations.
6) Academic collaboration.
    - Simply writing a paper together on a common problem.
7) Engaging industry in the classroom.
    - An excellent example of this is the Imperial Barrel Award (http://www.aapg.org/iba/). This provides an excellent educational opportunity for a group of students to evaluate the hydrocarbon potential of an area with the close collaboration of industry partners. This is also an excellent tool for getting students jobs in the energy industry.
    - Some companies are amenable to having their employees teach classes in their spare time (especially at the graduate level).
8) Software grants.
    - Getting cutting edge software for your educational and research program for minimal to no cost.
    - Learning this software gives your students very marketable skills.

Typical Challenges:

1) Industry works on a different timescale to academia. As academics we like to spend lots of time on a project to get it done as thoroughly as possible. Industry typically works on a shorter timescale.
2) Couching your research problem in such a way that an industry partner can justify it in their business plan.
3) Resistance to working with industry by some academics.

Typical Advantages:

1) Increases the exposure of your department to industry – this translates into more interest in your students from industry recruiters.
2) Opportunities to supplement the funding of your research program – for example through support for your students.
3) Access to industry expertise, data, software.

Project Examples:

DOE Funded Geological Characterization project.

- Schlumberger and Southern Company (utility company in the southeast) are industry partners.
- Access to cutting edge equipment and data processing techniques.
- Personnel from both companies are regularly in my department and talking to students.
- Both companies have recruited our students.
- Access to Schlumberger training programs at little to no cost.

Halliburton

- Proposals submitted to Halliburton for K-12 outreach activities, enhancement of introductory geology course, and student scholarships. Proposal designed to increase the positive name recognition of Halliburton.
- Software grants for industry-standard software – Landmark.

Southern Company

- Opportunities to consult and advise on numerous projects related to subsurface geology (big land owner).
- Small scale geophysical projects for site characterization.

Imperial Barrel Award

- Access to industry seismic and well data.
- Students work with industry advisors.
- Access to state of the art short courses at no cost.
- Networking opportunities with industry leaders.