



2009 Western Region Meeting Reno, NV



2009 Western Region Mini-workshop Report Internships: Best Practices and Successes

Internships: Best Practices and Successes

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PRELUDE

All meeting participants were given an opportunity to review a list of proposed primer questions the night before the workshop. Participants in the workshop were then presented with the list of questions at the beginning of the session and these were considered briefly at the beginning of the session. Participants thought it could be constructive to consider and discuss best practices in a semi-structured annual timeline sequence starting with announcement and ending with assessments. The list of potential questions used throughout the discussion were as follows:

- *What are the best times to advertise and recruit for*
 - a. *Industry-based internships and*
 - b. *NASA center based internships?*
- *What are the best advertisement/recruitment avenues and practices?*
- *What mechanisms are most expedient and effective in paying interns?(e.g. scholarship, stipends, as hourlies, etc.)*
- *What are the pros and cons of different funding mechanisms?*
- *What are best practices for gaining additional funding and/or gaining matching to internship resources?*
- *What are best practices for ensuring a good experience for interns?*
- *What are best practices for ensuring a good experience for the hosts?*
- *Are there any hurdles or negative feedbacks in being selected as a Space Grant intern?*
- *Which of your SMART goals are being met by internships at centers and with industry? (how are these stated in annual Space Grant proposals?)*
- *What targets are set for measuring successes of internship programs?*

Best times for advertising and recruitment:

As a general comment participants indicated (and there was agreement) that advertising and recruiting **early and often** was a best practice. Even in the event that specific program's application packets or websites were not available, it is a good practice to introduce and orient students to the notion that they could be working at a NASA center or with a private partner in the not-so-distant future. This orientation process should start early in the Fall semester.

Some participants indicated that some in Industry often begin recruiting in October and they make decisions in December. This timeline does not coincide with and actually can supersede the timeline where NASA centers make their decisions for summer internships much later. Specifically, the end of January or February 1 is generally a date where applications to NASA centers need to be made (JSC 's date was January 23, 2009, KSC, USRP's date is January 22, 2010, Academy applications are due in January as well).

To get the "best and brightest" students to have competitive application packets submitted by these deadlines a best practice is to **advertise in September & October** and to re-advertise in **December**, so the students fill out the application over the winter break.

Some consortia suggest that a good practice is to compete and accept students for a "Space Grant Stipend", even before they are accepted at a Center and not to wait for the Center to announce their selections. Thus, the consortia can let the students know that they will receive some funding, if not selected for a Center.

For Industry-based internships, **career fairs in October** represent an opportunity to place students in internships or internships for employment. For instance, consortia can represent themselves as a career opportunity at the fair.

When working to place students with industry, do consider that large corporations or NASA contractors may need commitments in January or February.

To facilitate this timing, separate application and industry-specific evaluation processes need to be in place. When developing or refining the application and review process, think through the process of the application. Web-based will increase your pool of applicants, students find this easier and compilation and dissemination to stakeholder is easier/facilitated.

Co-op Programs are an alternative series of internships built into academic programs. It was presented that there are ~50 schools doing this in large numbers in the US. Georgia Tech is a great example. The opportunities for such programs in the Western Region were not discussed. How to actually develop co-op programs was mentioned but quickly shelved as a topic for another discussion or workshop at a later date.

Best advertisement/recruitment avenues and practices:

- **Send an email with the application or URL attached to all Science and Engineering Departments at all the Colleges.** Administrative assistants then send this announcement to their students. Do this early and often, yet get to know the departments and how often they tolerate the spam.
- Use Departmental List-serves. Find a person that you know and that you can count on to get the information to the students. Have one faculty member in each Department that knows about Space Grant.
- **Use your Deans:** Example: A Dean hosted an evening colloquium in September that had students presenting on opportunities they experienced the previous summer. Thus student-to-student word of mouth can be facilitated by Administrative help.
- Students may be your best asset!! Contact the student chapters of professional societies. Staff and faculty have different amount of time. Staff may be more diligent to get the information to the student and societies. Yet overall positive communication of student's experiences may be the overall most effective means in recruitment.
- Virtual Career Fairs have the potential to integrate needs from a small business, SBIR program, and interns.
- **Consider using a Fan page on Facebook for internships.** This can also be used for longitudinal tracking.
- You-Tube video: **Consider working with the Art/Graphic/Advertisement programs on your campuses.** As a senior capstone project, students will often create the video for free. Also the synergistic use of journalism students may be considered as resource.

Overall, make sure students are getting information from many engaging sources. The word of mouth sources also is one that is most effective when the experience of the host and the student is truly mutually beneficial and valued and this is communicated effectively through all sources (also see discussions below regarding the value of Best Practices in *placements* and *assessments*).

Processes – Administration and Placement

NASA Centers

For many NASA center internships and Academy placements there are formal application, hosting and placement processes (e.g. USRP, Center Academies, Robotics programs). Some internship opportunities, however, do not come to fruition through these specific programs and it is essential to have the contact at a NASA Center to help place the student in the right position. At several of the NASA centers the primary point of contact for internship coordination is the University Affairs Officer (UAO).

Sometimes, “organic” internships are developed as student/faculty and NASA center researcher contacts and collaborations are developed without the engagement of a Centers-centralized NASA center POC/UAO. When this happens it is good practice to **communicate with the UAO that these contacts have been made** and that a student opportunity has materialized. The UAOs/POCs often can facilitate transitions of students to and from the centers. Moreover, UAOs may be tasked with personnel issues (security, orientation and safety training tasks etc.). Hence, contacting these people early helps in facilitation of the experience.

A challenge has been that the UAOs have changed and communication of these changes has been challenging. Therefore a BP at this time is to **communicate often with center UAOs and their supervising lines to keep in contact with this POC.**

Note that NASA is working on a “One Stop Shopping Initiative” that is envisioned to help coordinate and facilitate all internship activities and placements for NASA. The envisioned “One Stop Shopping Initiative” will not be ready for next summer, it is at least 18 months until a project will be piloted. Therefore, in the upcoming months and the summer of 2010 all consortia should exercise and still improve upon their consortium-specific coordination and placement best practices.

Industry/Contractors:

A website with a list of industries opportunities is extremely helpful. North Dakota has a list called the “Dakota Seeds Program”. The creation and maintenance of such a database is deemed a desirable best practice. Yet it seems as if most consortia have not implemented this BP. There seems to be real room for opportunities in this area. Such work could also help facilitate better and more efficient industry partnering.

Small businesses need Work Force Development and often need a great deal of specialization. Some businesses need a “one-to-one” ratio; one employee to one intern. An expressed best practice is to get to know your small aerospace businesses and their needs.

The Northeast Region is working on a methodology to share internship opportunities across states. Is this possible for the Western Region?

Discussion Regarding Mechanisms of Funding:

Some consortia recommended the best practice was to **provide funding in the form of a scholarship to the students all at once in recognition for potential future achievements.** An advantage of this form of funding is that the students have the resources to facilitate/affect their living conditions while making the transition to the internship location. In addition, the awarding of the resources by the consortia is administratively easy relative to some of the other mechanisms of funding. (e.g. fellowship/scholarships eliminate the paper work of timesheets, as an hourly via payroll).

This form of award has an inherent risk in that the students may leave or not be responsive to requests for reporting on their experiences once the internship has ended. If they do leave they still get all the money. It was noted that the occurrence of having student

leaving in the middle of an internship is extremely rare. However, it was noted that follow on reporting diligence can sometimes be an issue for some consortia.

Some consortia suggest that scholarships can still be the funding mechanism, yet holding part of the payment to make sure that you receive the final report can be implemented through the scholarship process.

When administering scholarships for internships with contractors, NASA or industrial partners it is a **best practice to recognize workman's compensation issues and have SOPs for the protection of the student and the hosting facility in place.** Some consortia require students have proof of insurance in order to receive their awards. Some consortia actually chose to pay their interns as hourly employees despite the burden of administering payroll- such that safety training SOPs are in place and liabilities are minimized. One student mentioned that payment in this form is viewed as a real positive experience as the payment reflects the working world which operates on a merit-based payment.

A general best practice that can be implemented across all consortia is to better **know and understand the restraints of your fiscal agent,** work with them in a creative manner and work with your financial aid office on behalf of the students. Learn to recognize how the method of payment will impact their tax responsibilities, as well as their financial aid status and inform the students of these impacts early and often.

A recognized best practice within consortia and among all of the programs is to try to maintain a **consistent payment amount/allotment for students within the same programs.** It is a recognized issue that some students, even within the same program, sometimes get paid different amounts. Students/interns do communicate regarding their experiences and compensations/support and when they feel as if they are not as valued as the next person they can become upset or less engaged.

For example, some students get extra money for a field trip. This realized inconsistency in payment method and amounts poses a potential threat to the realized value of the internship experience for the student, host and colleges. Thus, there was a discussion that it could be desirable to offer one consistent stipend amount across the entire Space Grant program or across NASA.

Experience of some discussion participants indicated that this issue is extremely difficult to implement and track at the moment because of the various issues at hand (e.g. financial aid/need, experience base of the applicants, cost of living at field sites, equitable pay scales in the place of internship placement etc.). The "One Stop Internship Shopping Initiative" is expected to be addressing this issue. However, this may also not be completely resolved in the near future through this process.

In the face of the realities of coordinating payment issues, an overall best practice is to coordinate payment amounts with the hosting industry/center, use best professional judgment determining equitable resource allocation/payment and to communicate early and often with potential interns the rationale for the payment amount, your constraints

that may limit their award. **Moreover, always communicate to the interns that the monetary amount for the internship is not likely to be nearly as valuable as the experience and connections that they will gain that will likely provide “dividends” well in excess of their present stipend value in years to come.**

Discussion Regarding Leveraging and Matching funds:

All participating consortia recognize/realize that the minimum requirements for scholarship/fellowship amounts do not have to be matched. Beyond this cost, there are matching requirements.

For industry placed internships it is **a best practice that a third party match letter, stating that the student got training resources and time from the company in the amount of \$\$\$.** This is an effective means for generating the matching requirements to the consortia award. Some participants expressed the view that this also works or is likely to work for NASA contractors located at NASA centers. Note that NASA center personnel and labs cannot be viewed as a source of match to the internship.

How do you measure success of your internship or internship program?

Awarding and placing an intern, even in what seems to be the “right” environment, does not always mean that student gained knowledge and enhanced technical skills.

A best practice implemented in some internship programs is **to implement pre-entry and exit surveys to both the host and the students.** Thus, consortia have the means to gather immediate feedback regarding the perceived value of the opportunity. A key question to ask is whether or not they would recommend an internship experience (NASA or Industrial) to a friend. Moreover, especially for industry hosts the same question should be posed, i.e. would they recommend to another company that hosting interns is a valued endeavor?

The longitudinal tracking of such students to their next steps is standard practice throughout the Space Grant program and some argue that this represents a means to determine statistics regarding the “effectiveness” of internships. It seems as if a comparison of these statistics with other students could also be a means to evaluate the longer term impact of these experiences.

Note: all of the issues that can arise for consortia payments to interns were not able to be discussed in the miniworkshop format. This document is simply a reporting of the pertinent dialog and discussions that ensued on the topic of best practices for facilitating and implementing internships in the Space Grant Program. This report is NOT endorsed by any space grant consortia or NASA and the information herein should be viewed accordingly.

Time constraints limited the discussion on several topics and issues that are relevant to those presented above. Thus, this report does not reflect an exhaustive treatment of the relevant issues. Rather, it is intended that the report helps facilitate the sharing of some of the effective practices exercised by some consortia and NASA programs and facilitates refining and sharing of these practices in the future.