Lessons learned from successful sessions of the UIC Post-Doc Institute

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1. Planning the series of workshops. The plan will depend on the purpose of the series of workshops. For example, The Post-Doc Institute was associated with a 24-month post-doc program which had been proposed in an NSF ADVANCE Grant, and the series of workshops was intended primarily for the post-docs in the program, but were opened to all STEM women post-docs. The sequential order of the sessions was dictated by necessity of having prepared the post-docs to be ready to submit application packages by the beginning of the hiring season (12 months from the start of the program) so as to be moving into a starting Assistant Professor position at the end of the 24 month program. It is wise to plan some sessions to be highly interactive and personalized. Some of the most effective sessions have been the ones where the materials (proposal, application package) submitted by the individual participants have been the subject of detailed comments and discussions. Unfortunately, these sessions are also very labor-intensive for the expert reviewers and panelists and are not easily arranged for a large number of participants. A more modest series of workshops for academic career development with limited scope and sequestered participants can run over a period of 1.5 to 2 days. A series with much more limited scope could take up just a half day. A cohesive plan (selection of topics to include, programmatic mode for each topic, effective panelists, logistics, materials, etc.) has to be created from scratch for each series by a Director with a vision.

2. Choosing the expert panelists and presenters. A sitting NSF program officer can be a very good choice for presenting an overview of the NSF grant programs, for example. The Research Standards Officer of the university would be a good panelist for a discussion of research integrity, allocation of credit, authorship practices, error and negligence in science, misconduct in science, responding to violations of ethical standards, etc. All else being equal, it would be wise to choose individuals whom you have seen “at work”, making a presentation or participating in a discussion. Choose individuals who can be counted on to do a conscientious job. Panelists need to do extra reading in order to be effective. Advice is most appropriate if backed by research data and statistics. The success of a session greatly depends on how well you have chosen the panelists. Choose individuals “in the trenches” who are actively doing that which the session is about. For example, for a panel on teaching effectively, you may choose a faculty member who has been teaching freshman classes rather than only graduate classes. Go for experts outside the institution when appropriate and possible. With advance planning you may be able to take advantage of sharing travel expenses for individuals who have been invited to campus for other purposes but happen to have the expertise you need for a specific session. Ideally, all other above-mentioned factors being equal, choose individuals who are known to be enthusiastic, engaging speakers interested in fostering academic careers, but spread the work so as to avoid overburdening individual faculty.

3. Preparing the panelists. It is very important to give the panelists or speakers very clear guidelines as to the purpose to be achieved in the specific session with some indication (examples from web sources) of how these purposes might be achieved. It is also important to show them where this session fits into the whole series (a copy of the plan for the whole series would be helpful), so as to define the scope of their own panel's contribution. Describe the sequence and timing of the events planned for the session, for example: Prof. A presentation 20 min, Q&A 10 min Prof. B presentation 20 min. Q&A 10 min. Free-form discussion between panelists and audience 20 min. However, it would be a mistake to tell them how to do their part; I have found that most of my colleagues have surprised me with their unique, thoughtful, and creative approaches.

4. Preparing the audience. It is important to give the participants a clear idea as to what is the purpose of the workshop, who are the expert panelists and what are their qualifications, what is the nature of the participation expected from the audience. For example, the participants may be asked ahead of time to submit something they have written, (a) for the panelists to critique, or (b) for the participants to critique each other's submission, or (c) to be reviewed anonymously by an expert reviewer, or other. The audience can be prepared by providing details in the body of the invitation e-mail and by attaching a flyer for the session which includes what, who, when, where, how. Examples of flyers which I prepared for sessions of the UIC Post-Doc Institute are available for each session.

5. Promoting the workshop. If the workshop is being made available to post-docs in all STEM departments, for example, it would be wise to acquire the set of e-mail addresses of the intended audience and send the invitations with flyers to each one, in addition to posting a copy of the flyer in each department office. Furthermore, it would be useful to send a copy of the invitation to the research advisers so that they may realize the opportunities being made available to their post-docs. Ideally, the plan and calendar for the entire series will be available before the first session is offered, so that the research advisers can include the workshops as part of the special mentoring activities that are being provided to their post-docs in compliance with the NSF requirements pursuant to the America COMPETES Act of 2007. Post-docs are more likely to participate if their adviser understands that they will be taking time to do this and that this is an activity considered to be equally important as doing research. For post-docs supported by NIH grants, it is different. Can time spent mentoring students and post-doctorates be counted toward percent effort reported on an NIH research grant? Yes, to the extent that mentoring activities are not readily separable from activities related to supervising the participation of students and post-doctorates in the funded research project. (http://grants1.nih.gov/training/q&a.htm#mentor) NIH guidelines require that 100% of a post-doc's time be billed to research activities. An NIH post-doc can be paid for the time he or she is mentored, but only if the mentoring activities are part of the normal research activities. A specific event devoted entirely to mentoring, such as the workshops described here would not be allowed. However, NIH has a new policy specifically directed towards training in the responsible conduct of research. On Nov 24th, 2009, NIH updated its policy for instruction of trainees in the responsible conduct

of research. The new updated policy (http://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html) states:
"NIH requires that all trainees, fellows, participants, and scholars receiving support through any NIH training, career development award (individual or institutional), research education grant, and dissertation research grant must receive instruction in responsible conduct of research. This policy will take effect with all new and renewal applications submitted on or after January 25, 2010, and for all continuation grants."

6. A coordinator/moderator for each session. It is necessary to keep everyone on track (time and scope) to maintain effectiveness of the session. The coordinator begins the session on time with a few words describing the purpose of the session and introducing the panelists. The coordinator winds up the discussion such as to end on time. Sessions need not be the same length and may, if desired, have an optional added informal networking period following the formal session.

7. Choosing an appropriate venue for the workshop. Ideally, the same room can be used for each session of the series. The room should be large enough for the expected attendance, is equipped with a large table for round-table or panel discussions, classroom type seating arrangement for a presentation-type format, reliable projection facilities, and IT staff on call, in case of unforeseen difficulties. At the entrance to the room, provide a surface with a sign-up sheet to record attendance and to distribute any printed materials and name badges.

Challenges which had to be overcome

1. Choosing the expert panelists and presenters. Finding faculty who are willing to contribute to the effort was not trivial. Finding anonymous written reviewers appropriate for manuscript or proposal content and getting the reviews promptly from those who do accept the responsibility was not easy. Finding panelists who are STEM generalists, rather than wedded to their narrow expertise and view of science was crucial. Fortunately, these generalists also happened to be distinguished professors who were willing to donate their time.

2. Preparing the panelists. In order for each session to succeed as planned, the instructions to the panelists, reviewers, and presenters are extremely important. Avoid ambiguity! I find that providing them examples of what other workshops have done (copies of presentations, tips, advice columns from reliable sources such as AAAS ScienceCareers etc. available from the web) is effective for setting the tone and intended content, at the same time saying that here is what others have done, but of course you have your own words of wisdom and creative ideas. I also find that it is useful for them to know the context for their session, so I provide them with the entire plan in order that they can see what has been or will be covered in other sessions. When the panelists are intended to act as members of a faculty search committee evaluating a job talk, it is important to tell them ahead of time that they should treat the

participant just as they would a candidate in a real campus interview, asking the same probing questions, etc.

3. Preparing the audience/participants. Get the participants to provide their "ticket" to those sessions which require that they bring their own work. In general the participants did not want to do any specific work for the sessions and preferred to submit something which they already had but other than what was required. For example, one submitted a one-page letter of intent rather than a complete 6-page proposal, at the same time arguing that many RFPs require first a letter of intent. Another submitted a 42-page proposal that she already had submitted to a private foundation (this was a heavy burden on the reviewers). Instead of completing a manuscript in the works and casting it in the format of the intended journal, one submitted a technical report. The letter of intent writer missed out on what could have been a very useful critique, had she written the requested 6-page proposal.

4. Staffing the Post-Doc Institute. Getting staff to do the grunt work that makes a session run smoothly as intended was a challenge. There are lots of nuts and bolts activities in preparing for each session, like composing the announcements/flyers with bio-sketches and images of panelists, sending out e-mail invitations to the participants, e-mail reminders having the proper information in the subject heading, sending them out at the proper time, making color copies of the flyers and hand-out versions of the PowerPoint presentations, getting rooms reserved, having screen, projector, laptop, and presentation itself on screen minutes before the session is to start. Lack of reliable staff creates extra burden on the coordinator and presenters. If videotaping a session for future use, one must obtain signed agreements from all participants, i.e., speakers and discussants. Also, one must obtain permission if retaining a copy of a presenter's slides for future use. Many speakers have no objection to wide distribution, others limit distribution to those physically present during the session, and most do not permit posting their presentation on a website.

Challenges in preparing a workshop based on the materials previously prepared for The Post-Doc Institute:

1. First, there is no such thing as cookie-cutter workshops. A lot of work has to be done to create a plan, logistics, and materials for <u>each</u> workshop. Which topics to be included, so as to have something sensible, will depend on the purpose and length of the intended workshop. The programmatic mode that makes it possible to achieve the learning goals of the session depends on the length of the workshop. The materials that need to be prepared also depend on the purpose and length. Even excellent PowerPoint presentations cannot simply be used over and over again.

2. Effective workshops are labor-intensive. The more effective sessions are those which require materials submitted by the participants to be subjected to the constructive criticism of the panelists. The message in the presentations really hits home when the participants see how it applies to their own work. We can have participants critique each other's work, but that is not nearly as effective as having seasoned experts (search

committee members, proposal reviewers) doing the job. The seasoned experts see things novices do not see; they view proposals from a more global point of view than one who has reviewed at most a handful of proposals. However, these experts are usually very busy individuals.

3. Information has to be current and have a wider perspective. Therefore, even a former NSF program officer cannot give accurate advice without reading through the most updated grant program conditions and proposal preparation instructions. Rules change from year to year. This requires extra work from the panelists. A faculty member who has received an NSF CAREER grant is not necessarily able to give advice on how to write a competitive proposal for this program. NSF CAREER workshops that are useful are those in which the presentations are given by program officers who have seen how panel reviewers react to thousands of proposals over the entire lifetime of the CAREER program. The bibliography of e-sources need to be updated regularly since links go dead all the time.

4. The same faculty cannot be used over and over again. Therefore, the challenge of getting the faculty for the workshop is a new one each time. As mentioned above, veterans have the better perspective, but they also need to do work to update their knowledge.

5. Although there are many similarities among research and academic cultures of STEM disciplines, even these have real differences from each other. Having participants outside of STEM would be a problem, even though there are some global similarities among academic disciplines.