

Develop a Strategic Mindset

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The essence of strategy is tradeoffs - making choices about what you won't do, in order to do other things that help you achieve your goals.

When "opportunities" come knocking, ask yourself:

How does this fit into my long-term goals?

Does this have potential benefits for my research?

Is this really an opportunity?

"Opportunities" may include a request for collaboration, an invitation to submit a paper to a specific journal, an invitation to write a review article or to co-author a review, a request to serve on a panel or a committee, an invitation to give a research seminar or visit a research group, an invitation to give a talk at a conference, an invitation to be a member of an examination committee, or a search committee.

As a new investigator, it is usually good to accept an invitation from a major federal funding agency to serve on a panel that reviews research proposals. This gives you an opportunity to gain an understanding of why some proposals get funded and others are not, and thereby learn how to write proposals that get funded.

Some lower impact journals send pro-forma invitations to authors to submit an article based on a conference presentation. If this is not your first choice journal for that paper, do not accept the invitation.

Invitations to visit a research group in your field and give a research seminar in his/her institution are usually good to accept, especially so if the person inviting you is a more senior person. Junior faculty should give each other the benefit of visibility by inviting each other to give departmental seminars, if possible. Usually, it is not difficult to convince the seminar coordinator to issue an invitation, especially if the invitee is a good speaker. This is an opportunity to gain a career-long colleague, and is a win-win situation especially if institutions are within driving distance. These faculty members get to know your graduate students and may eventually serve as references or dissertation examiners for them.

Publication Pipeline:

1. Have a research publication in the journal pipeline (submitted, in review, or in press) at every instant of time to keep consistent in having at least 1-2 research publications every year.

2. Keep a table of publications at various stages of completion. Do this by crafting a tentative publication title as soon as the research project idea is fleshed out well enough to put in the steps to completion in a table.

3. Identify the possible bottlenecks in order to focus on the steps that require creative solution and are not yet routine.

4. Train your Ph. D. students to have strategic mindset. Every project has, to start with, a grand plan. At the beginning, the student has to acquaint herself with the literature to find out if the work has been done before, and what are the possible methodologies that can be used. In doing this, she compiles a bibliography that will form the basis for discussions and eventually the list of references for the article. For ease and accuracy, it is best to use some software that imports the references and can subsequently reformat them to suit a specific journal. Every project the Ph.D. student is working on is a potential poster presentation or talk for a specifically targeted annual conference in your field. Their goal is to finish the project to a level of accomplishment that the poster or talk can be presented with pride at the conference. Usually an abstract is required many months before the conference, so the commitment to finish the work is made well ahead of time. Then, upon returning from the conference, the goal is to write up the work for publication, using the presentation figures and tables of results and analysis/conclusions as a place to start. Any questions brought up by the audience at the conference should be addressed at this stage. This goal-oriented approach keeps the Ph. D. student on track and motivated; she knows what she is working toward at every stage. Make

this the norm for the way in which your lab presents its work to the rest of the scientific community. It beats wading through the Ph.D. thesis to produce the manuscripts long after the student has left. If the work is good enough to be used for a dissertation, it should be accepted for publication before the thesis defense.

5. Writing a comprehensive review article on a specialized subject where you have expertise is a good way to gain visibility for yourself. It is also a good way to acquaint your students with the background literature that forms the basis for their own projects. An effective tool is the journal club style of group meeting. A participant makes herself an authority on one or two papers and presents them to the rest of the group. Writing a review article with a Ph.D. student may be a good motivator, but only do this if she can make a substantial contribution to the writing.

6. Consider whether you should hold off publishing after each piece of the puzzle has been solved and wait to consolidate a more comprehensive and powerful article for a high-profile journal. A study has shown that women tend to do the latter and thereby end up with fewer articles but higher total citations. [Elizabeth Culotta, [Study: Male Scientists Publish More, Women Cited More](#), *The Scientist* 1993, 7(15):14]

Workshops:

These are good opportunities to gain insight that you would not otherwise have, and incidentally also serve as opportunities for networking.

A very useful workshop is the NSF CAREER Workshop which is sponsored by one of NSF's engineering programs. It is usually oversubscribed and the probability of being permitted to attend is less than 50% unless the sponsoring NSF program is the program where your proposal belongs. Workshop applications are due in November for a workshop in April, and NSF CAREER proposals are due sometime in July.

COACH gives career advice workshops for Chemistry junior faculty and post-docs. These are usually held in conjunction with a national meeting of The American Chemical Society.

There are also workshops which consist of tutorials associated with national conferences on specialized fields. These tutorials are meant for graduate students, post-docs, or new faculty entering the field.

There are equipment or software user workshops for those who need to get a fast introduction to the methodology and the procedures, or else are sophisticated users wishing to hear about novel applications. Sometimes it makes a lot of sense to spend for the travel, accommodations, and attendance fees to give your post-doc or Ph.D. student a quick start. The benefit comes with having first attempted to learn on their own before attending the workshop, so that they already have some familiarity and ability to make immediate use of the training.

Making your work known to others:

1. The key is to let others know about your good work without being boastful. Once you have found your own faculty advocate within your department, that advocate will be the one to spread the word around, which is more effective than you doing it. For example, if your journal article ends up as a cover article, or if it gets highlighted in a high-profile journal such as *Nature* or *Science*, or if your university paper posts a press release about your work, make sure that everybody who counts does hear about it directly or indirectly. One way to do this is to send a low-key e-mail about your achievement, pointing out the URL to your department head, who will likely forward it to all the faculty in the department. Do not neglect to also send the note to your colleagues in the field, attaching a pdf of the article.

2. These days it is absolutely necessary to have an attractive well-kept web site with your latest research in progress and publications, as well as photos with research blurbs of the members of your research group. Any favorable mention of your work on the web should be listed on your own website with URLs for navigation. Assign one of your Ph.D. students as webmaster. Your web site also serves as a recruiting tool for new Ph.D. students who are thinking of joining your group or thinking of attending your institution. Graduate students who have made poster presentations or talks may wish to place these in your web site as well, to help them in their job search.

3. If a well-known person in your field has seen your poster or discussed your talk with you and seemed favorably impressed with your work, this person is a potential sponsor for award nominations and potential “outside letter” writer for tenure. Make sure that this person sees your publications. Do not assume that every paper gets read just because it is published. Stay in touch by sending this person a copy of this year’s published papers and a short, short cover letter in an e-mail. Then, make it a point to seek out such a person at every succeeding conference once you have made the first connection. When you do this, be sure that you have read the latest work out of that group so you have an easy conversational entry. Invite this person to give a seminar in your department and get to know your graduate students. Invite this person to be an external thesis examiner for your best Ph.D. student.

4. Seek out senior faculty in related fields in your institution to become your sponsor. The campus-wide committees which decide on University Scholars, promotion and tenure, intramural research grants are composed of such people. There are opportunities to meet such people in local workshops, mini-conferences, or user groups in Centers; use such opportunities to meet professional colleagues who may be able to help you advance your career. Ask your junior colleagues in related departments to invite you to give a research talk (and do the same for them). This is one way to get to meet the senior members of their department.