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Maximizing Productivity and Recognition, Part 2: Collaboration and Networking

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In [our previous article](#), we offered tips for maximizing publications and citations. Here, we focus on collaboration and networking, including getting the most out of scientific meetings and improving your chances that others will know you and your research well enough to write strong letters for promotion. The final piece in the series will be on developing an effective research plan and integrating research into teaching.

Effective collaboration, networking, and visibility at meetings can increase your productivity and impact by integrating you into the research community and helping you make connections that will advance science and your career.

COLLABORATION AND NETWORKING

Broadening your collaborations likely will strengthen your publication record. Fox and Mohapatra (2007) found that productivity is positively correlated with collaboration with faculty members outside a scientist's university and to a lesser degree with faculty members inside the home department.

As you plan new collaborations, find out how your field values collaborative science, because some fields reward collaboration more than others. In many fields, scholars recommend being lead author on about a third of the articles you publish. Check the records of recently

tenured faculty members to find out what percentage of lead-author publications is expected for your field and institution. Also check how your institution, or the institution you are applying to, assesses collaborative research contributions. Some institutions ask you to describe your contributions to collaborative research in your research statement. Others seek information about your role in collaborations via letters from your collaborators.

Choose collaborators who hold up their end and acknowledge the contributions each person has made. Avoid collaborators who are high-maintenance or who play down the contributions of others. Great colleagues stimulate creativity and productivity and promote your research and ideas, but difficult colleagues sap energy and time and don't increase your impact.

Negotiations are part of all scientific collaborations. Sharing ideas, sharing data, managing resources, and sharing publications and credit all require some form of negotiation. Find out what your collaborators need from the collaboration. Be open and communicative and state clearly your own interests, needs, and objectives. Open communication will build strong working relationships.

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Stay in touch with current, past, and potential collaborators. Set aside time to connect with them at meetings. Personal contact facilitates meaningful interaction and keeps you on their radar screens. Connecting with people and forming professional networks are important for many reasons beyond research collaborations: Collaborators, especially those who are senior to you, may be asked to write reference letters. And good collaborators are the foundation of your citation community.

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Many connections arise naturally during the course of a career in science. But you can take an active role by seeking connections with eminent senior and junior scholars in your field, people who have been funded recently in your research area, and program managers who fund their work (and yours). Make contact with authors of papers you frequently cite or that you especially enjoy reading. A wide network is crucial for those career-building invitations to participate in departmental seminars and deliver invited talks at conferences.

Effective networks are built upon *successful* connections, so don't force those that don't seem to be working. And don't forget that all such relationships are two-way affairs. Be prepared to provide respect, willing support, and service to others.

PRESENTATIONS

One of the most important strategies to increase productivity, recognition, and impact is to present your research as widely as possible. Presenting work has other advantages as well: You gain new insights into the validity of your work and its relevance to other fields. You grow more comfortable with the material, making it easier to write up. You become aware of areas that need strengthening, and you learn which aspects of your work your expert audiences find most exciting--a clue to which aspects of your work have potential for further development and funding. You are also likely to be alerted to potential competitors and of any urgency in publication.

Presenting work at meetings is critical prior to tenure evaluation. In one case we know about, a single presentation at a national meeting raised from lukewarm to enthusiastic the level of support for a candidate from senior colleagues.

An extension of this career-development theme is to lead a special session at a professional meeting or put together a workshop on an emerging idea. Organizing such events is time-consuming, but you will learn a lot from the experience, gain visibility, and come to be seen as an authority and a leader. Talk with the appropriate program managers at your granting agencies to see if they are interested in receiving a workshop proposal. Explore opportunities for funding within your institution or from corporate sponsors.

REFERENCE LETTERS

Letters of recommendation from qualified scientists carry significant weight in evaluations for hiring--but most especially promotion--because they provide an external measure that synthesizes all three of the key parameters we emphasize: productivity, recognition, and impact. An understanding of what constitutes good letters can improve your chances of securing them. You want letters indicating that you are creative, original, and on a trajectory to be a leader in your field. Trix and Psenka (2003) find that longer reference letters are more effective because they show care on the part of the recommender and because detail is persuasive. Long, detailed letters are much easier to write if the writer has met you and knows your work. A tenure dossier may include as few as five or as many as 20 letters of reference, typically from influential people at peer institutions who know your work well enough to evaluate it.

Sometimes, candidates for tenure and promotion are invited to submit names to the committee. Other times, you can influence who writes by making informal recommendations (when asked!). But even under the most favorable circumstances, you probably will not be able to choose many of your letter writers. The factor most likely to determine the quality of your letters, then, is how many people in the field know and respect you and your work.

As an active researcher, you already should know who the leaders are in your field and surrounding fields. If you've contributed to the field with conference participation, valuable publications, and collaborations, those leaders will know your work and--it is hoped--respect it.

Still, a little due diligence never hurts. So do a citation search in your area of research and identify the 15 most-cited scientists. Also find out which researchers have published the most and received the most grants. These techniques can help you identify important contributors--and potential collaborators--whom you and others may have overlooked. That's a very good thing for science, *and* it's good for your career.

Once you've identified these people, read their papers and bios and check out their pictures so you can identify them by sight. Read their abstracts before the next meeting, then attend their presentations and

talk with them afterward. If there's some aspect of the science you want to discuss at greater length--and often there is--arrange to meet later for coffee.

Your department can also help you make connections. Whoever is organizing the departmental seminar series is probably eager for suggestions--so offer some ideas for speakers and volunteer to serve as their host. Extend the invitations yourself. People are pleased to be invited, and if they are able to come, it will provide you with an opportunity to get to know them better through informal as well as formal interactions.

Finally, if you are concerned that a potential letter-writer is predisposed to dislike you or your work, find out how your institution handles such situations. There's a good chance that your concerns will be taken into account.

ADVANCING SCIENCE AND YOUR CAREER

Developing effective collaborations, presenting your work at professional meetings and workshops, and connecting with the leaders in your field can advance your research and help you gain recognition for your work. This is good for science, and it's good for you.

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