

A Guide To Mentoring in the X-ray Science Division at Argonne

The X-ray Science Division at Argonne would like to be proactive in developing the careers of young scientists. We are always looking for ways to improve in this area. We would like to introduce a slightly more formal scheme of "mentoring" of younger staff, in order to ensure that everyone gets broad and sound advice about their research and careers and has a forum to voice concerns about the division. This should also help ensure that no one "falls through the cracks" and misses getting help and advice that he or she needs.

The interaction between the established scientific staff and a younger scientist is a complex relationship that has great benefits for both parties when it works. It is in everybody's interest to ensure that these relationships work well. Sometimes, it is easier for a "third party" to see how things are working out, and this provides the underlying concept of a "mentor."

Arriving at Argonne X-ray Science Division, perhaps as a new Ph.D., can be confusing for some. There are many world-class programs in place, and always new and exciting avenues opening up. Some examples of questions that may arise are:

- How should a young scientist choose what projects to be associated with?
- Is it better to be involved intensely in a single project, in a subfield that one already knows, or to widen one's horizons by getting involved in several new areas?
- If you have a good idea of your own, how do you get (often more senior) colleagues involved?
- What will the senior person with whom you collaborate most closely think of you getting involved in other projects?
- If you feel you need some new resources how do you get them?
- What should you do if there are personality conflicts that you feel unable to resolve, or if you feel you are not being fairly treated?
- When should you start thinking about the "next step" after Argonne in planning your career?

For many young scientists, the existing structures work very well. Most often, new people rapidly find a project or projects they like in some of the more established programs and they may get some form of mentoring and advice from a scientist in one of these groups. Beyond that, one of the roles of the Group Leader is to make sure that all the scientists have the resources they need for their research. For younger people, this includes identifying practical needs, trying to ensure they get recognition, through their publications, through presentations at conferences, etc., and giving them advice on their research and future careers. Finally, the Division Director, Deputy Division Director and Associate Division Directors always have an active interest in the progress and development of all the staff, as this leads to a scientifically productive and harmoniously running group. But there may be issues that a younger scientist may feel awkward discussing with their senior coworkers, the chief, or the division director, and more personal informal advice is needed. This is one of the intended roles of the mentor.

Guidelines For The Young Scientist

Choosing a Mentor

Choosing the right mentor is a subtle issue. It is best to find someone with whom you feel that you can talk openly, and who you think can give you sound advice, both on science and on your career. It is best to try to find a mentor in the first three months. A good starting point may be to discuss the mentoring process with your chief. Another good starting point while you go round and get to know the staff and find out what each one does, is to also consider each staff member as a possible mentor. When you have found a mentor who has agreed to work with you in this role, then you should inform your chief and give him the attached form to forward to the division office.

There are several things to balance:

It is usually best to choose somebody with whom you are not working too closely.

While for a post-doc, an assistant scientist may be a good mentor, as they can relate to your situation better and may be easier to talk with, they may not have as broad a physics background, or as many outside contacts, as a senior person.

It is probably best not to have your own Group Leader, Associate Division Directors, or the Division Director as mentor. These people will always remain available to you, if needed.

If the mentoring is not working out you are free to find another mentor. If you want to change you might wish to discuss this with your chief.

How often to meet?

The mentoring scheme is not intended to be too formal and the meeting should be arranged between you and your mentor when convenient. We think that meetings at least every three months are useful. It is probably useful to think about how things are going beforehand and note down the issues that concern you and things that you feel you need to talk about.

Relationship to your Group Leader

Your Group Leader is responsible for the administration and budgets of your research group, so if you need things, a chief is probably the person to start with. This covers travel, help from the support groups, computer resources, workshop effort, special target needs, and the like. Your Group Leader was likely a part of the process that got you to the Argonne X-ray Science Division, and will likely be involved in helping you find your next job, so keeping in contact is useful. The Group Leaders should know about your research activities and results since they are responsible for the division's Annual Report, reporting to the DOE, and preparing budgets for the future.

Jörg Maser is the X-ray Science Division Postdoctoral mentoring coordinator. Contact Jörg to schedule an appointment maser@anl.gov. He will discuss the choice of a mentor with you, and suggest possible mentors if desired.

Guidelines For the Mentor

It is not the intention to make hard and fast rules. The purpose of the mentoring scheme is to provide a channel listening to the young scientist's concerns and sometimes using a bit of weight to make sure that their needs are being heard in the right places.

It is never too early to think about "After Argonne", as a little thought and discussion as to the "Grand Plan" early on can make many of the other decisions fall into place. Knowing where young people want to get to makes getting them there a whole lot easier.

It is extremely good for a new Ph.D. to find a project in which they become expert, and begin to be identified as having an area of excellence, which may lead to giving conference talks and to opening job opportunities later. This is a key to mentoring, and partly the responsibility of the chief and scientists with whom the person is working most closely. However, if young scientists cannot find niches for themselves, they may need help in this area.

It is also wise for young scientists to broaden their experience by getting involved in several projects, even if at a modest level, so they understand the issues and widen their intellectual horizons.

If feasible, young scientists should experience all aspects of projects, from brainstorming new experiments to publishing results. Sometimes the timescale and size of projects prevents involvement in the full cycle on a single project. However, exposure to all facets of planning and executing projects is desirable.

Young scientists should not have to internalize their problems. They should be encouraged to find their own solutions when possible, but they should feel free to take complaints to their mentor. They should expect their mentor to take up serious issues and help them find solutions.

"Showcasing" our young talent is good for them and very good for ANL. Mentors may be able to help when the opportunity arises.

Constructive criticism is good. A bit of praise rarely does any harm either.

Mentoring Agreement

We agree to participate in the Argonne X-ray Science Division Mentoring Program and have read the guidelines.

DATE

YOUNG SCIENTIST (PRINT NAME)

GROUP NAME:

SIGNED

MENTOR NAME (PRINT)

DIVISION/GROUP NAME:

SIGNED

Please return this form to Christina Pennell, Building 401/B4211D, X-ray Science Division Office.