

An Informal Guide To Mentoring in the Physics Division at ANL.
25th April 2002

The Physics Division at Argonne has a long tradition in developing the careers of young scientists. We are proud of this tradition and 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, has a forum to voice concerns about the division, and to make sure nobody “falls through the cracks” and does not get the help and advice they need.

Arriving at Argonne Physics can be a bit bewildering. There are many world-class programs in place, and always new and exciting avenues opening up. How should a young scientist choose what projects to be associated with? Is it better to be involved intensely in a single project, or widen ones horizons by doing many things? If you have a good idea of your own, how do you get colleagues involved? If you feel you need some new resources how do you get them? If you feel unfairly treated, who should you complain to? When should one start thinking about the “next step” after Argonne? It is these type of questions which the mentoring scheme is aimed at helping you with.

For many young scientists, the existing structures work very well. Most often, a new person rapidly finds a project they like very quickly, in one of the more established programs, and get mentoring and advice from a scientist in that group. Beyond that, one of the roles of the “chief” of each group is to make sure that all the scientist have the resources they need for their research. For younger people, this includes identifying practical needs, trying to get recognition for young people, through their publications, at conferences, etc., and in giving them advice on their research and future careers. Finally, the Division Director has always an active interest in the progress and development of all the staff, as this leads to a scientifically productive and harmoniously running group.

It should be remembered that the interaction between the established scientific staff and the younger scientists is a complex relationship that has great benefits for both parties when it works well. It is a two way street. The established scientist have experience and knowledge, but often have administrative burdens which limits their time for research. The young scientists can bring fresh ideas, new skills, and energy to research. However, it is a complicated relationship; the established scientist might like full dedication to their project, while the younger person may be interested in broadening horizons by working on several things. Consequently, it is in everybody’s interest to ensure that these relationships work well. Sometimes, it is easier for a “third party” to see how this is working out, and this is the background reason for the concept of a “mentor”.

Guidelines For The Young Scientist.

Choosing a Mentor

This is the tricky part. The bottom line is you need to find someone who you can talk openly to, and who you think can give you sound advice, both on science and career. We think you should try to find a mentor in the first three months. A good starting point maybe to discuss the mentoring process with your chief. Another good starting point is to go round and get to know all the permanent staff and find out what they do. This is probably good advice quite apart from mentoring. When you have found a mentor, and when they have agreed to work with you, then you should go and tell your chief and the Division Director, and discuss it with them.

There are several things to balance:

Someone you work very closely with may give you very useful direct science advice on your project, but may be less well positioned to encourage you to go and “broaden your horizons” on other projects.

Someone who is younger probably can relate to your situation better, as it is closer to them, but may not have as broad physics background, or as many outside contacts, as a senior person.

Clearly, it is not an easy choice. However, it is not irrevocable, and if the mentoring is not working out you are free to find another mentor. Again, if you want to change you should discuss this both with your chief and Division Director.

How often to Meet.

We do not want to have too formal a mentoring scheme, and so the meeting should be arranged between you and your mentor. We think that meetings at least every three months are useful. While not wanting to be formal, it is probably useful to think about how things are going beforehand and write down the issues that concern you and you feel you need to talk about.

Relationship to your Chief

You should be aware that your chief has considerable influence on the group material resources, 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 chief was probably very important in getting you to the Argonne Physics Division, and probably will be involved in helping you with your next job, so keeping in contact is useful. It is very useful that the chief knows all that is going on as they are responsible for the Annual Report, Reporting to the DOE, and preparing budgets for the outyears. Because the chiefs, the Scientific Director and Division Director all have a considerable administrative burden, we think they should not be mentors.

Guidelines For the Mentor.

It is very difficult to make hard and fast rules. However, we believe that many issues can be quite easily resolved by listening to the young scientists concerns and sometimes using a bit of weight to make sure their needs are being heard in the right places.

We believe 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.

We believe it is extremely good if young people can find a project at which they become expert in, and begin to be identified as having an area of excellence, which may lead to giving conference talks and opening job opportunities later. This is a key to mentoring; if the young scientist cannot find a niche for themselves, they may need help in this area. However, we also believe that all young people develop best if they get involved in several projects, even if at a modest level, so they understand and can discuss the issues.

We believe that 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 experiments are useful for the future.

We believe that young scientist should not internalize their problems. They should be encouraged to find their own solutions when possible, but they should feel free to make complaints to their mentor. They should expect their mentor to take up serious issues and help them find solutions.

We believe that showcasing our young talent is good for them and very good for ANL. Mentors should not be ashamed to put in a good word for the young ANL scientists when the opportunity arises.

We believe that constructive criticism is good. A bit of praise does not do any harm either.

Mentoring Agreement.

We agree to participate in the Argonne Physics Division Mentoring Program and have read the guidelines.

DATE.....

YOUNG SCIENTIST (PRINT NAME).....

SIGNED.....

MENTOR NAME (PRINT).....

SIGNED.....

Please return this form to Barbara Fletcher in the Division Office.