

## **Individual Development Plans (IDPs) for Graduate Students and Postdocs**

### **Why IDPs:**

In 2009 NSF began to require a description of mentoring and professional development plans for postdocs from all principal investigators with proposals that requested funding for postdoctoral scholars. In 2012, a subcommittee of the NIH Advisory Committee to the Director proposed a similar requirement for NIH supported postdocs and now all NIH grants that support trainees at the pre- and post-doctoral levels are encouraged to have an individual mentoring plan or individual development plan (IDP).

At first glance this appears to be another bureaucratic mandate that adds to the burden of faculty competing for grant funding. However a review of the literature on goal setting supports the view that the IDP is likely to serve as an effective mentoring tool. Preparing IDPs via collaboration between faculty and students serves to set explicit expectations and prevent conflicts<sup>1</sup>. Further, there is ample evidence for the professional benefits of setting goals and identifying career plans, particularly when individuals take substantial responsibility for setting those goals and generating those career plans<sup>2,3</sup>.

### **Merit Review--IDPs as Important Components of Grant Applications:**

Even before the new NSF requirement, the “Broader Impact” of any proposal reviewed by NSF panels received substantial attention, and the strength or weakness of this component of the proposal often determined the fate of the application with respect to funding priorities. This was particularly true for Integrative Graduate Education & Research Traineeship (IGERT) and Science & Technology Center (STC) proposals. It is very likely that IDPs will become of considerable importance for the success of proposals reviewed by NSF and NIH, as well as other agencies and foundations. In addition to the training/educational record of the principal investigator, important elements of any effective mentoring plan or IDP are:

1. The institutional support and resources for the educational plan.
2. How well the training and educational components are integrated with the research activities of the individual student.
3. How well is the plan tailored to the career path chosen by the student.

The [MSU-CAFFE](#) can help you maximize the effectiveness of these three elements. In the case of (1) the CAFFE is the product of an NSF grant that had as PI the Provost of MSU. This provides evidence of institutional commitment and support. For (2) and (3) the offerings of the CAFFE cover a wide range of topics pertinent to the professional development of early career scholars, a judicious selection from this list combined with clearly stated connections to the discipline-specific training strategy should result in credible and effective IDPs that are good fits for the immediate and future goals of individual students. Although the stated goal of CAFFE is to prepare individuals for academic careers, many of the offerings and activities are also pertinent to careers in

business, industry and government, as well as in other professional areas. For a broader scope of professional development options go to: <https://careersuccess.msu.edu/>

## **IDPs for Graduate Students: Parallel Mentoring**

Several of models are available for creating IDPs. The approach endorsed by the MSU-CAFFE involves constructing IDPs with **parallel, discipline-specific, and professional development components, which are eventually integrated as a comprehensive plan to optimize the mentored training of individual graduate students.**

For a starting predoctoral scholar, these two components would include the following steps and content:

### **I. Discipline-specific Mentoring Plan**

Step One: Jointly (student and mentor) assess the experience, disciplinary knowledge and skills derived from undergraduate work/graduate work and identify opportunities to develop new technical skills and research activities to complement and enhance the previous disciplinary preparation. It is expected that early in the student's graduate training, many of these activities would be prescribed by the Graduate Handbook of the graduate program. For broader career planning, an excellent assessment tool (myIDP) for developing scientists was launched last fall at the *Science Careers* Web site and the MSU-CAFFE highly recommends its use in the generation of IDPs ( <http://myidp.sciencecareers.org/>). The myIDP takes about 1hr to 1.5 hrs to complete and is user friendly. Although developed primarily for those in the biomedical fields, it is adaptable to other fields and career paths.

Step Two: Jointly set expectations about:

Graduate Students:

- Completion of core courses and electives
- Research rotations
- Preparation for qualifying and comprehensive exams
- Work load and work schedule expectations, including serving as teaching/research assistant
- Responsible Conduct of Research (including safety and ethical issues specific to the discipline)
- Role as part of a research team
- Research skills
- Presentations and publications
- International experiences
- Internships

- Engagement in professional organizations

Postdocs:

- Research Plans
- Publication Strategy
- Travel to Professional Meetings
- Work Load and Work Schedule
- Proposals for Extramural Funding
- Responsible Conduct of Research (Including Safety and Ethical Issues Specific to the Discipline)
- Role of the Postdocs as Part of a Team
- Laboratory skills

## **II. Professional Development Plan (using CAFFE)**

Step One: Jointly assess the student's or postdoc career goals and her/his level of skill and knowledge in key professional areas, namely: Expectations of Academic Institutions; Faculty Knowledge Essentials; Academic Work Skills and Responsibilities; and Professional Attitudes and Ethics. Then, set priorities about the development of key professional skills, knowledge and attitudes, taking into consideration the disciplinary area and the career path chosen by the student.

Step Two: Jointly set expectations about participating in offerings from the CAFFE.

Schedules of professional development activities are available from:

<http://grad.msu.edu/caffe> and <https://careersuccess.msu.edu/>

### **Integration**

Step One: Combine I and II to create a multi-year IDP

Step Two: Develop a year-one version of the IDP from the multi-year plan

Step Three: Implement the plan and use it as a template for annual reviews of the progress.

### **References:**

<sup>1</sup> Klomparens, K, Beck, JP, Brockman, J & Nunez, AA (2008) *Setting Expectations and Resolving Conflicts in Graduate Education*. Washington DC: Council of Graduate Schools.

<sup>2</sup> Latham, GP and Yulk, GA (1976) Effects of assigned and participative goal setting on performance and job satisfaction. *Journal of Applied Psychology*, 61: 166-171.

<sup>3</sup> Locke, EA and Latham GP (2006) New directions in goal-setting theory. *Current Directions in Psychological Science*, 15: 265 – 268.