

## **NIH Partnership Program Handbook**

For general information about the Graduate Programs at GWU, please see <http://www.gwu.edu/learn/graduateprofessionalprograms>.

For general information about the IBS Graduate Programs, please see the IBS website at <http://smhs.gwu.edu/ibs/>. A general IBS handbook relevant to partnership and non-partnership students is also posted on the IBS website.

Students in the GWU-NIH Partnership Program may earn a Ph.D. by working in a lab at NIH or in a collaborative project between an NIH laboratory and a laboratory at GWU. Students may elect to earn a Ph.D. in any of the three programs offered in the Biomedical Sciences at GWU. The three Ph.D. Programs available include Biochemistry and Systems Biology, Microbiology and Immunology, and Molecular Medicine.

### **Getting Started: the first year in the Program**

All students in the Biomedical Sciences Program at GWU enter into a combined curriculum. Courses are taken together and a Ph.D. Program chosen after the first two semesters of coursework. During the first year, the Academic Advisor is the Director of the Institute for Biomedical Sciences (IBS). After a Ph.D. Program is chosen, the Program Director provides academic advising for the student. The IBS continues to provide support in other areas, especially as the time of dissertation defense approaches.

### **Research Opportunities**

Students in the NIH-GWU Partnership Program perform their dissertation research in pairs of research laboratories, one on the NIH campus and one at a GWU campus, or in an NIH laboratory, but with a GWU co-mentor who is strongly involved in oversight of the student's project. There are three GWU sites from which a co-mentor can be drawn: the GWU campus at Foggy Bottom, including the Medical Center and the Columbian College of Arts and Sciences, and the Children's National Health System. Pairs of investigators with current or proposed collaborative research projects are listed in an accompanying document. For students choosing the dual research mentor option, at least 50% of research time must be spent at the NIH. By working with two scientists instead of just one, students benefit from a broader scientific training, learn different and often contrasting approaches to a research question, and acquire invaluable professional skills for managing research collaborations. Collaboration has become the hallmark of modern science and it is critical for future scientists to learn early how to excel at working with other scientists and across disciplinary boundaries. Other details of the collaborative arrangement, including generation of the research proposal and monitoring of research progress are covered in a separate section of the document.

## **Research Rotations**

Students in the Graduate Partnership Program are required to perform four laboratory rotations. Available rotation mentors are listed. At least two rotations are done at NIH and up to two may be done at GWU. Even if a student has chosen to do all research in an NIH lab, the GWU rotations will help the student identify a co-mentor to serve in the capacity of development of a strong research proposal. The first rotation is done in the Summer before courses begin and will take place at NIH. This rotation runs from July through August. The second and third rotations may be done at GWU. Exact rotation dates are announced each year, but generally run from late September through early December, and from mid- January to mid-April. The final rotation is usually at the NIH, and runs from mid-April through early June. At the end of June, a permanent laboratory pair should be chosen for dissertation research.

## **Laboratory Choice Reporting**

When the student has chosen a laboratory pair for dissertation research, it is the student's responsibility to report that information, including the name and contact information of the appropriate Administrative Officer to the IBS office. This will assist us in working out tuition issues and helping to resolve any problems that may arise with billing.

## **Program Choice**

Students in the GWU-NIH Partnership Program may elect to earn a Ph.D. in any of the three programs offered in the Biomedical Sciences at GWU. The choice is made in the Spring of the first year. A form will be distributed to all first year students stating the exact due date. Introductory courses in each program, called Program Core Courses, are taken in the Spring to help guide the students make this choice. Students must take at least one core program course, and may take another to assist in their decision. The three Ph.D. Programs available include Biochemistry and Systems Biology, Microbiology and Immunology, and Molecular Medicine. The GWU faculty member in whose lab the student chooses to do research must be a member of the program the student chooses. Forms are submitted to the IBS office, which will route them to the appropriate programs. Program Directors will notify students of acceptance into the Programs.

## **Registration**

Please refer to the GWU website for current registration deadlines (<http://www.gwu.edu/~regweb/web-content/index.html>). Late fees are assessed if these deadlines are missed and neither NIH nor the GWU fellowship office pays late fees. These are the responsibility of the individual student. It is also extremely important that you notify the IBS of the number of credits for which you plan to register each semester so the IBS can calculate the tuition that the GWU and the NIH should pay for you. If you

register for a greater number of credits, the difference may not be made up by either institution, and if you register for too few, the money cannot be carried over to the next semester.

### **Dissertation Research Proposals**

NIH Partnership students are required to generate both pre-proposals (end of the first Summer) and full proposals. Full proposals for GWU-NIH Partnership Program students are due in May of the second year. Guidelines for writing of the Proposal are provided in the IBS Handbook. The proposal should be defended before the beginning of the third year.

### **Individual Development Plan**

The NIH now requires that all students supported by NIH grant funds have an Individual Development Plan (IDP). We endorse this requirement and require it for all students, regardless of support mechanism. This IDP allows students to assess their current skills and plan development of skills and competencies toward their ultimate career goals. We recommend using the tool available for such a plan at <http://myidp.sciencecareers.org/>. This step by step guide allows frequent updates and matches the student's interests and skills with career paths. The IDP is required as part of the Scientific Writing course for all first year students, and a printout must be presented at biannual committee meetings for all upper level students.

### **What is expected of collaborative project mentors and students?**

Students in the Graduate Partnership Program as well as other students in the Ph.D. Program in the Institute for Biomedical Sciences are expected to produce and defend a body of work that is identifiable as their own. It is the responsibility of the mentor to ensure that the student has a project that will produce such a body of work. To facilitate design and implementation of such a project, the student is expected to submit a proposal during the Spring of the second year of graduate school. For students in the Partnership program, it is required that a pre-proposal be generated by the end of the first Summer. The pre-proposal should provide a general idea of the area of research and the responsibilities of the three parties involved, the two mentors and the student, along with a proposed timeline. A copy should be provided to the NIH Program Directors, The GWU Program Director, and the IBS Director. The Full Proposal should list Specific Aims supported by Background and Significance, as well as an experimental Design Section describing how the Specific Aims will be accomplished. The Proposal should follow the format set forth by the guidelines for the NIH NRSA pre-doctoral fellowship application (see Writing and Defense of the Research Proposal in the IBS Handbook).

Students in the first year of the program are in class Monday through Wednesday for the entire morning in the fall and Monday and Wednesday in the spring. Afternoons of days on which there are no classes and all day on class-free days, students are expected to be in laboratories. Allowances must be made for homework and studying, but a goal of this program is early and intensive exposure to research. Keeping up with classes, however, comes first. A student in academic trouble will not survive to pursue a research program. If faculty or the program director identifies an academic problem the student will be notified and may be advised to reduce time spent at the bench. In the first year, students are expected to spend about 30 hours/week in the laboratory unless there are extenuating circumstances.

There is a separate handbook for NIH mentors. If you do not have this, please obtain one from the IBS website.

### **Meetings with the Program Directors**

Mandatory meetings will be scheduled with the Program Directors. Some will be individual student meetings and some will be group meetings. These will afford an opportunity for the students to share their ongoing research with other students, raise issues or problems with the directors, and get to know students in other class years.

### **Role of the NIH Program Director (Currently Dr. Stan Lipkowitz)**

The NIH Program Director assists in guiding the student in choosing laboratories appropriate to the student's research interest and serves as a resource in selection of research committee members at the NIH.

### **Role of the IBS Program Director (Currently Dr. Linda Werling)**

The IBS Program Director serves as the student's Academic Advisor.

### **Role of the GWU Rotation Advisor (Currently Dr. Anne Chiaramello)**

The GWU Rotation Advisor assists the student in the selection of a laboratory consistent with the student's research interests at GWU.

### **Dissertation Advisory Committee**

The Dissertation Advisory Committee is chosen by the student with advice and input from the research mentor and approval of the Program Director. The Dissertation Advisory Committee consists of the two Research Mentors plus two other members chosen for their ability and willingness to provide input and guidance to the student in the development and completion of the dissertation research project. Of the two others, at least one must be a GW faculty member. A Dissertation Advisory Committee member other than the mentor should be appointed as Chair of the Committee. This person should be responsible for taking notes during the Committee meetings, writing a summary of the decisions made at the meetings, and providing members and the student with a written summary. This will ensure that all are in agreement about the responsibilities of the student in achieving timely progress toward completion of the project. The Committee should meet at six month intervals after receiving written progress reports from the student. At times, six months may be deemed too brief an interval, but in no case should meetings of the committee be less frequent than yearly.

### **The Final Examination Committee**

The Final Examination Committee usually consists of the Dissertation Advisory Committee plus at least two additional members. The additional members must be “fresh” to the process. The Final Examination Committee must have at least four examining members. Neither the NIH mentor nor the GWU mentor is an examiner. One member of the Examining Committee must be outside the student’s program or outside the university. This person may have been part of the Dissertation Advisory Committee. Two of the examining members must be GWU faculty. There must also be a Presiding Official to run the defense proceedings. This person is not an examiner, and should be a Program Director, or the Director of the IBS.

### **Master of Philosophy**

After a student has completed 48 hours of coursework and passed comprehensive examinations, he/she may apply for a degree of Master of Philosophy. Forms are available from the CCAS.

It is very important for the student to recognize his or her own responsibility in the educational process. The IBS Director, Program Directors, and staff are willing to assist in any way possible, but tuition bills and certain academic information are available only to the student and the student must keep track of progress and achieving milestones toward the Ph.D. degree. To avoid unpleasant surprises, such as accumulated late fees or sudden realization that one is short on credits or missing a required course, please arrange to meet with appropriate persons at regular intervals and check your transcripts and accounts often.