NIH Mentor's Handbook

Thank you for agreeing to be a mentor to a GWU student. We appreciate your commitment to graduate education and are here to assist you in any way we can.

General Information

Your student should be familiar with GWU academic policies and procedures, and has an on campus Program Director to help him or her negotiate academic requirements and policies. There are also handbooks available on our website at http://www.gwumc.edu/ibs/forms.html and on the GWU College of Arts and Sciences Website http://www.gwu.edu/~ccas/grad/handbook.html. Both sites are updated periodically and may answer questions that arise. For anything that cannot be answered in our online resources, please feel free to contact the Director of the IBS or the individual Program Director of the program to which your student belongs at any time.

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General Overview of the GWU PhD program in Biomedical Sciences

All students in the Biomedical Sciences Program at GWU (both those in the NIH GPP and those in the GWU only programs) enter into a combined core curriculum. At the end of the first year the students choose a lab and begin their dissertation research. They also select one of the three PhD programs offered in the Biomedical Sciences at GWU. The three Ph.D. Programs are 1) Biochemistry and Molecular Genetics, 2) Microbiology and Immunology, and 3) Molecular Medicine. During the second year the students take additional courses towards fulfillment of their course requirements. At the end of the second year, the students complete a comprehensive examination. After successfully completing the exam, the students spend their time pursuing their dissertation research. All students in the GWU-GPP are required to have a co-mentor from GWU who is actively involved in the supervision of the student. The co-mentor may or may not be part of a collaborative project with the NIH mentor.

Overview of Mentor Responsibilities

The outline below presents a brief overview of the responsibilities of the mentor. More detailed description can be found in the rest of the handbook.

First Year: Mentors serve as hosts for rotating graduate students provided that they are likely to have space and funding for the student to do their dissertation research in the mentor's lab if they are mutually agreeable.

Second Year: Mentors accept students into laboratory and assist in writing the preproposal which is due at the end of the second summer. By the end of the second year, mentors are expected to assist the students in writing their research proposal that outlines the background, specific aims, and approaches to be taken

Third Year and beyond: Mentors supervise the student's dissertation Research. The mentor is a member of the student's dissertation advisory committee and is expected to attend the semiannual committee meetings with their students.

Dissertation Defense: The mentor is expected to review and edit the student's dissertation. They are a expected to attend the student's dissertation defense but they are not one of the examiners.

Credit Requirements

To earn a PhD, a student must accumulate 72 credits, of which 48 must be course work. A student generally completes all course work during the first two years, and after 48 hrs are completed and a comprehensive examination is passed is advanced to candidacy. If a student holds a Master's degree in a science, 24 hrs may be transferred toward a PhD.
Timeline

During the first Summer, the GW-NIH Partnership student does the first rotation in an NIH lab. This rotation runs from early July to mid-September. A PowerPoint presentation is scheduled at GWU at the

end of the presentation, followed by a question and answer session run by the GWU Rotation Advisor. The NIH mentor and any other faculty are invited to the session.

During the first year, the student takes courses at GWU. Usually in the Fall, the student is taking Proteins and Macromolecules, Nucleic Acids, Scientific Writing, and the first GWU lab rotation. In the Spring, the student takes Cell Biology, Ethics and Grantsmanship, and two other three hour courses that are introductory level courses to the PhD programs available (Molecular Medicine; Biochemistry and Molecular Genetics; Microbiology and Immunology), as well as the second GWU lab rotation. These two GWU lab rotations assist the student in identifying a GWU co-mentor for the dissertation project. In the late spring, the student does the second NIH lab rotation.

Students in the first year of the program are in class Monday through Wednesday for the entire morning. Most weeks, the afternoons of these days as well as Thursdays and Fridays there are no classes and 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.

At the end of the first year, the student chooses the NIH lab and mentor and the GWU co-mentor. During the second year, the student takes Program-specific courses. The Program Director will assist the student in choosing appropriate courses for his or her Program and research project. They also begin their dissertation research in their chosen laboratory.

The third and fourth years should be devoted to research and publication of results. While we do not have a requirement for publication in order to graduate, it is expected that all students will publish. Students should complete their degrees in five years or fewer.

To ensure the student registers for the correct number of credits (such that neither NIH nor the GWU Office of Fellowships is neither under nor overbilled), the student will be required to meet with the Ph.D. Program Director at the beginning of each semester to have the registration transaction form signed.

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 have a primary mentor at NIH and a co-mentor intimately involved in the oversight of the project at GWU. There are three GWU sites from which a student can choose a co-mentor: the GWU campus at Foggy Bottom, including the Medical Center and the Columbian College of Arts and Sciences, and the Children's National Medical Center. Pairs of investigators with current or proposed collaborative research projects are listed in an accompanying document. If a student chooses a collaborative arrangement, 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, 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.

Dissertation Research Proposals

NIH Partnership students are required to generate both pre-proposals (end of the second 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.

What is expected of 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 preproposal 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 predoctoral fellowship application (see Writing and Defense of the Research Proposal in the IBS Handbook).

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 GWU Program Director (Currently Dr. Linda Werling)

The IBS Program Director serves as the student's Academic Advisor in the first year. In the subsequent years, she is available at any time for consultation, advice, assistance in forming committees, facilitating and coordinating defenses, consulting with mentors, or general information that is helpful to students or mentors.

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 and NIH.

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 three 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 three 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 one additional member. The additional member 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. This person may have been part of the Dissertation Advisory Committee. Two of the examining members must be GWU faculty located on one of the GWU campuses.

Ready to defend?

When the student is planning to defend, he or she should contact the IBS Director for guidance. We have a complete set of documents, checklists and templates to assist the student in preparation of the dissertation. The dissertation must first be signed off on by the mentor and co-mentor, then distributed to two readers. When the readers have signed off that the dissertation is ready to be defended, the student may schedule a defense.