Cross Disciplinary Graduate Program in Biomedical Sciences

The Johns Hopkins University School of Medicine

Policy Book

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OVERVIEW & PROGRAM GOALS

The concept for the Cross Disciplinary Graduate Program in Biomedical Sciences (XDBio) was launched in the Spring of 2016 in the Center for Innovation in Graduate Biomedical Education (CIGBE) as a response to a JHU Provost’s initiative to introduce innovations into PhD Education (PhD 2.0).

The goals of the program are to introduce innovations that would benefit both the field of biomedical discovery and the students working in this field by:

1.) Promoting cross-disciplinary research. Examples of this may include work across two basic science fields or translational work crossing basic science and clinical boundaries.
2.) Adapting PhD education to the changes technology has brought to the dissemination of knowledge. This graduate program includes very few required courses. Students are expected to be independent learners and minimally dependent on course-based learning. Lab work begins on day one in this program and thesis work begins early in the first year.
3.) Focusing on student skills development. Requirements focus on technical, operational and professional competencies. Novel technologic approaches to foster scholarship skills development.

The XDBio Program will share and support successful innovations with other graduate programs in the Johns Hopkins School of Medicine.

One barrier to cross-disciplinary science is an infrastructure created in response to federal grant funding around specific scientific silos. XDBio students are funded by the School of Medicine for five years and thus enabled to work across scientific boundaries and in multiple labs. The XDBio Program seeks to recruit graduate students with significant research experience, attained either through undergraduate research or by time spent working as technical professionals in biomedical discovery science. XDBio students will have targeted specific scientific research areas before they apply to the program. The Johns Hopkins School of Medicine has excellent programs for students who wish to sample different areas of biomedical research; XDBio is a specialized program for experienced scientists who wish to work independently and target specific questions that cross traditional departmental boundaries.

MAJOR FEATURES OF THE XDBIO PROGRAM

Cross-disciplinary and silo-free: Freeing students from the restrictions imposed by research grant funding and departmental structures will foster the development of independence and support student innovation and providing an accelerated path to independence.
Recruitment: Applicants to the program must have some previous scientific research experience (ex: undergraduate research or work as a technician) to be considered for program admission.

Day one in the lab: XDBio students will begin the selection of a PhD advisor during the admissions process or soon after acceptance into the program. Students will begin work in the lab learning relevant techniques on their first day of graduate school. Optional short rotations will focus on the student’s fit in the lab environment.

Precision education: Students will be assessed soon after acceptance to the program to determine the breadth of their scientific knowledge. This assessment will involve a diagnostic interview with a set of faculty curriculum advisors. Identified areas important to the students development as an independent scientist will be remedied using a student-centered curriculum honed to the student’s research interests and needs.

Tailored tutorial-based curriculum: Small group tutorials and one-on-one interactions with faculty experts will be key to the student’s growth intellectually and allow the students to examine problems from a variety of different perspectives. Small tailored nano-courses will support the development of technical skills.

Emphasis on technical, operational and professional skills development: Many programs assess student competency by reviewing the student’s research productivity. While productivity is critical, this program also emphasizes development of professional competencies needed for success in biomedical discovery. There is an emphasis on the development of the student as an independent innovator.

ADMINISTRATION

Structure. The XDBio Program Director provides overall leadership of the program, appoints committee chairs, advises students, and serves as the chair of the XDBio Advisory Board. He/she supervises the XDBio Program Manager who implements policies and procedures on a day-to-day basis.

Director Selection. The XDBio Program is an evolution of the PhD program in Molecular Biology and Genetics (MBG). The Program Director for XDBio is selected by the Chair of the Department of Molecular Biology and Genetics. In the Summer of 2017, the Chair of MBG, Dr. Carol Greider, appointed Dr. Brendan Cormack as the XDBio Program Director.

XDBio Advisory Board. The XDBio Advisory Board serves as both the Steering committee for the program and as the Policy Committee. The Program Director will invite Faculty in the Institute for Basic Biomedical Sciences (IBBS) to sit on the Board. Key Members of Johns Hopkins School of Medicine (SOM) Leadership may also be invited to sit on the Board. The Advisory Board meets monthly to oversee major policy initiatives such as curriculum and qualifying exam changes. The Program Director may call an ad hoc meeting of the Advisory Board as needed. Decisions are made by a majority vote. Members of the Advisory Board and key committees are listed in the
Table 1. XDBio Program Leadership

<table>
<thead>
<tr>
<th>Program Leadership &amp; Management</th>
<th>Advisory Board</th>
<th>Admissions Committee</th>
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<tbody>
<tr>
<td>Program Director:</td>
<td>Mary Armanios, M.D.</td>
<td>Heng Zhu, PhD</td>
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<td>Brendan Cormack, PhD</td>
<td>James Berger, PhD</td>
<td>Jie Xiao, PhD</td>
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<td></td>
<td>Kimberly Duncan, PhD</td>
<td>Kenneth Whitaker Witwer, PhD</td>
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<td>Peter Espenshade, PhD</td>
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<td>Program Manager:</td>
<td>Erin Goley, PhD</td>
<td>Reza Shadmehr, MS, PhD</td>
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<tr>
<td>Noelia Cantu, MBA</td>
<td>Carol Greider, PhD</td>
<td>Hiromi Sesaki, PhD</td>
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<td></td>
<td>Alex Kolodkin, PhD</td>
<td>Jennifer L. Pluznick, PhD</td>
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<td></td>
<td>Rong Li, PhD</td>
<td>Ulrich Mueller, PhD</td>
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<td></td>
<td>Seth Margolis, PhD</td>
<td>Andrew S. McCallion, PhD</td>
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<td></td>
<td>Damani Piggott, M.D. PhD</td>
<td>Takanari Inoue, PhD</td>
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<td></td>
<td>Doug Robinson, PhD</td>
<td>Tamara J. O'Connor, PhD</td>
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<td>Robert Siliciano, M.D. PhD</td>
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<td></td>
<td>Les Tung, PhD</td>
<td>Brendan P. Cormack, PhD</td>
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<td>Carl Wu, PhD</td>
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FACULTY: MEMBERSHIP AND PARTICIPATION

Faculty Roles: Three Advisors - Anchor, Secondary, & Academic

There are three key faculty roles in this program to support each student.

- An Anchor Advisor serves as the primary PhD Advisor for each graduate student.
- A secondary Advisor, often called the Co-Advisor, also serves each student.
- Each student will be appointed an Academic Advisor 2-3 months before they start the program. The Academic Advisor is assigned by the XDBio Program to serve as your advocate, help with selection of courses, and help you adjust to life as a graduate student.

All three Advisor roles must be filled by a faculty member who holds a position as Assistant, Associate, or Full Professor. Faculty who are instructors, or non-tenure track, cannot be designated as the Anchor or Secondary Advisor for a student. Non-tenure track faculty can be part of a thesis committee or a DBO exam, or act as a secondary advisor if their credentials are approved by the XDBio Program Director.

Membership: Anchor & Secondary Advisors
The Anchor Advisor must be a member of one of the nine basic science departments in the Johns Hopkins School of Medicine. These nine departments make up IBBS. These departments include:
- Biological Chemistry
- Biomedical Engineering
- Biophysics and Biophysical Chemistry
- Cell Biology
- Molecular and Comparative Pathobiology
- Molecular Biology and Genetics
- Neuroscience
- Pharmacology and Molecular Sciences
- Physiology

The Secondary Advisor, or Co-Advisor, must be a faculty member of any Department in the Johns Hopkins University who is working to advance biomedical discovery. This would include Departments in the following JHU Divisions:
- The School of Medicine (Basic Science and Clinical Departments)
- The Applied Physics Lab
- The Kreiger School of Arts & Sciences (Science Departments)
- The School of Nursing
- The Whiting School of Engineering
- The Bloomberg School of Public Health

Faculty of Divisions of JHU that do not focus on biomedical discovery will only be considered under special circumstances. These Divisions include the School of Advanced International Studies, the Carey Business School, the School of Education, and the Peabody Institute. Faculty in Humanities Departments in the Kreiger School of Arts & Sciences would also require special circumstances for inclusion.

While a major goal of the program is cross-disciplinary research, it is not unusual for faculty members of the same Department to conduct research in significantly different fields of science. Under special circumstances, a project that involves Co-Advisors from the same basic science department will be considered, if the cross-disciplinary nature of the work can be sufficiently justified. Adjunct, part-time and visiting faculty are not eligible for participation in the program as Advisors.

**Expectations for Faculty Participation.** All faculty members with primary appointments in one of the nine basic science departments in the School of Medicine are invited to become members of the XDBio faculty. Some members of these departments have chosen not to participate. In addition to mentoring students in their labs, XDBio program members are expected to lead small group tutorials, teach in nano-courses where they have expertise, participate annually in at least three XDBio activities including: serving as academic advisors, interviewing prospective students during recruiting, serving on oral exam and thesis committees, serving on the admissions committee, leading skills workshops, and attending student presentations. Other opportunities include serving on the Advisory Board and subcommittees.

No new faculty outside of the participating School of Medicine Basic Science Departments will be promised XDBio participation as a condition of employment.
Faculty outside of the IBBS will be considered for participation in XDBio as secondary Advisors only, and only after they have joined the Johns Hopkins faculty.

XDBio PROGRAM REQUIREMENTS FOR STUDENTS

Overview. A key innovation in the XDBio program is the tailoring of coursework and formal learning to the student’s individual needs, based on their thesis question. Identification of the thesis question topic area may precede coursework.

Lab Selection. Admitted XDBio students will be assigned an Academic Advisor after April 15. Students will work with the Academic Advisor and the XDBio Director to identify labs suited to the scientific area of the student’s interest. Ideally, students will have identified key potential Faculty Advisors during their own background research conducted during or before the application period. With the Academic Advisor’s help, accepted students will communicate with the potential Anchor Advisor before matriculation and select an initial rotation lab.

At the beginning of the academic year, students will start work in the potential Anchor Advisor’s lab on their first day following Orientation. The work will be in the form of a short rotation to determine if the student and Anchor Advisor are a good fit. If there are any concerns about fit, or if the student is interested in comparing two labs, additional short rotations can be arranged.

Start in Lab. Students should enter the program with an interest in a specific scientific area. While most programs begin with coursework followed by lab work, the XDBio program reverses this. XDBio students begin in the lab and identify what coursework is needed for their thesis work. This is the reason XDBio seeks to recruit only students with significant research experience.

Diagnostic Assessment. Admitted XDBio students will be assigned a curriculum committee with expertise in their research area. This committee will meet 1-2 months prior to matriculation with the student and assess the student’s knowledge and guide design of a tailored curriculum. This committee also meets twice during the first year to track the progress of the student in coursework and reports to the program.

Tailored coursework. There are no required courses for XDBio students. One exception to this is trainings mandated by the JH SOM (for example, Responsible Conduct of Research). Small group tutorials and one-on-one interactions with faculty experts will be key to the student’s growth intellectually and allow the students to examine problems from a variety of different perspectives. Based on the student’s research interests, courses and activities will be recommended to help the student achieve their goals.

Competency-based Curriculum
The XDBio curriculum prioritizes the outcomes of learning rather than emphasizing expectations focused on the content delivered.

Competencies are broken into seven major groups:
1. Responsible Conduct of Research
2. Technical skills
3. Experimental Design and methods of inquiry
4. Data integrity, analysis and evaluation
5. Scholarship & Communication
6. Professional Reporting
7. Career development skills

**Mandatory training.** There are required trainings associated with certain competencies that must be accomplished by all XDBio graduate students. The current list of mandatory trainings for XDBio is listed here, though this may be subject to change under special circumstances. For example, currently the NIH requires training in *The Responsible Conduct of Research*. If the NIH were to add additional requirements, these would fall under the heading of Mandatory Training. Additionally, if JHU or JH SOM makes changes to requirements of all scientists involved in research, these would also fall under the heading of Mandatory Training. The list below is not complete as it does not list all trainings required of all JH SOM trainees (example, HIPAA or Fire safety training). There are also lab-specific trainings that are not listed here (example, Care and use of animals in research).

1. Responsible Conduct of Research

Mandatory: All XDBio students are required to participate in a JH SOM course on research ethics. In this course, topics discussed include: Diversity and Inclusion, Mentoring, Misconduct (Plagiarism, Falsification and Fabrication), Authorship, Scientific Recordkeeping, Conflict of Interest and Intellectual Property, Oral Presentations, and Animal and Human Experimentation. Ethics training must be repeated every three years. There are multiple ways to satisfy this requirement including (1) Participation in Departmental Ethics discussions, held on specific topics once per year; (2) Participation in one of the two half-day sections of the SOM course "Introduction to Research Ethics", which is a combination of large group lecture and small group sessions, and meets for one half day in the fall and one in the spring; (3) Attend two Dean’s lectures on Responsible Conduct of Research, held throughout the year. Participation in one of these three training experiences must be documented and will be recorded in each student’s file.

Related to responsible conduct, students sign a general SOM Honor Code upon matriculation.

2. Technical skills

Small tailored nano-courses will support the development of technical skills. Initially, XDBio students should focus on technical skills needed for their thesis research. They have the option of participating in nano-courses of techniques, unrelated to their thesis, if they feel these techniques might be evaluable in future career opportunities.

3. Experimental Design and Methods of Inquiry
XDBio student may meet this requirement by completing courses where student discuss research papers that involve a current controversy or introduce a new experimental paradigm. Rigor and reproducibility, sample size, and other key elements of experimental design are discussed in many JHU courses.

4. Data integrity, analysis and evaluation

Mandatory: All XDBio students must demonstrate an understanding of statistical analysis.

XDBio Students must demonstrate their skills in data analysis and the evaluation of data in their thesis work and though participation in Journal clubs and lab meetings.

5. Scholarship & Communication

Communication skills training: Training in both scientific and lay language is needed to engage communities beyond our laboratory walls while serving as leaders in biomedical discovery. XDBio Students will have opportunities to present and share their work to diverse audiences.

Mandatory: Participation in CIGBE's online portal for scholarship skills development: An online community of graduate students will afford XDBio students an opportunity to practice writing manuscripts, funding proposals and giving presentations. The portal also supports the development of evaluative judgement and peer review skills. CIGBE is developing this portal with Microsoft.

Mentoring & Teaching skills. All XDBio students will participate in training on mentoring. Students with an interest in developing their teaching skills will have an opportunity to participate in training at the Teaching Academy which is managed by the Center for Educational Resources at JHU.

6. Professional Reporting

Mandatory: Professional Reporting Requirements.

Every six months, XDBio students are required to update the Progress Report, an online record of the student’s academic activities. With this form, students will report on the courses taken, laboratory rotations completed, thesis committee meetings, publications, fellowship applications, awards, changes in funding, etc. This report is reviewed by the XDBio Program Director. The data are used to monitor each students progress in the program. The form is an accurate record of all academic activities during time spent in the XDBio program. All PhDs must retain accurate records of publications, awards, funding changes, meeting attendance, presentations, and other data, though out their careers. This is often managed on a curriculum vitae. All students in the XDBio Program are required to begin this habit of professional activity reporting from the moment they begin the program.

7. Career development skills

Mandatory: Graduate Student Individual Development Plans
All XDBio students must work with their Advisors to complete an individual development plan (IDP). This plan must be reviewed. The Anchor Advisor and the student should keep a record of the forms and the action plan. The Thesis Committee will verify that the IDP is being maintained in accordance with JH SOM policies.

PROGRAM LOGISTICS (TIMELINE & SUMMARY)

Table 2. XDBio Program Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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<tbody>
<tr>
<td>Thesis</td>
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<td>Thesis Defense</td>
</tr>
<tr>
<td></td>
<td>Initial Thesis Proposal Preparation</td>
<td>Thesis Work</td>
<td>(end of year 5)</td>
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<tr>
<td></td>
<td>DBO at end of Year 1/Fall Year 2</td>
<td>Thesis committee Assessments</td>
<td></td>
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<tr>
<td>Assessments</td>
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<tr>
<td>Course work</td>
<td>Nano-courses, small group tutorials, coursework as needed to support thesis work</td>
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<tr>
<td>Faculty roles</td>
<td>Short rotations in early weeks; DBO at end of Year 1/fall Year 2</td>
<td>Annual thesis committee meetings, Individual Development Plans</td>
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PROGRAM LOGISTICS - Details

**Year One Requirements**

**Rotations.** As described above under Lab Selection, students will start work in the lab on their first day following Orientation, in a short rotation to determine if the student is a good fit in the lab of the Anchor Advisor selected before matriculation. If there are any concerns about fit, or if the student is interested in comparing two labs, a second short rotation can be arranged. The format of these rotations is flexible, the number and duration may vary. The goal is to ensure the lab, the Faculty member, and the student will work well for the next five years.
Rotations may be established to determine if the proposed Secondary Advisor and their lab is a good fit.

**Begin small group tutorials & nano-courses.** As the student begins exploring the scientific areas of their thesis proposal, they may begin taking courses that will the completion of this work. These courses may take the form of small group tutorials, nano-courses on techniques relevant to the project, and other courses offered at JHU that would support this work. Students should keep the Advisors aware of the coursework they are taking, and seek advice whenever necessary. The XDBio program Director is also a good source of advice on coursework decisions. The XDBio Program Manager can support the student by guiding them through the course selection and registration process.

**Thesis Research Proposal.** Each student submits a proposed topic for his/her thesis research and a detailed description of the proposed thesis project at least six weeks prior to the Doctoral Boards Oral exam (DBO). The proposal should be in the format of an NIH/NSF-style fellowship applications. It should be sent to the XDBio Program Director, the Academic Advisor with copies of the final versions going to both the Anchor and Secondary Advisors. The Proposal will form the basis of several future grant applications, and may serve as the introductory chapters of the dissertation. The XDBio Program Director may suggest changes to the proposal, following consultation with other key faculty members and the Advisory Board.

Students can work with their Advisors to formulate the best hypotheses and methods to test them in the Thesis Proposal. However, the Advisors are not allowed to help with the writing of the proposal. Upon approval by the XDBio Program Director, the DBO exam committee will be formed based on the thesis topic. The XDBio Program Manager will distribute the final Thesis Proposal to the DBO exam committee two weeks prior to the exam date.

The thesis proposal format is the same as an NIH Pre-doctoral Fellowship (NRSA) application. This proposal should be well-formulated and presented in sufficient detail that it can be evaluated for both its research training potential and scientific merit. It is important that it be developed in collaboration with the thesis advisor, but it is to be written by the applicant. Include sufficient information to permit an effective review without reviewers having to refer to the literature or any previous application. Brevity and clarity in the presentation will be considered indicative of an applicant's approach and ability to conduct a superior project.

**Thesis Proposal Format.** Subsections (3) and (4) of this item are not to exceed 6 single-spaced pages in total, including all tables and figures. The document has minimum margins of 0.5 inches and a minimum font size of 11. Follow the format below:

1. **Title Page (one page).** Title, Author, Names of Committee Members, plus: two-sentence summary of Public Health Significance; and two-sentence summary of Proposed Research.
2. **Specific Aims (one page).** State the specific purposes of the research proposal and the hypotheses to be tested.
3. Background and Significance. Sketch briefly the background to the proposal. State concisely the importance of the research described in this application by relating the specific aims to broad, long-term objectives. Use this section to provide an account of any preliminary studies that might demonstrate the utility of the proposed project as a training experience.

4. Research Design and Methods. Provide an outline of: Research design and the procedures to be used to accomplish the specific aims; Tentative sequence for the investigation; Statistical procedures by which the data will be analyzed. Potential experimental difficulties should be discussed together with alternative approaches that could achieve the desired aims.

5. Literature cited.

6. NIH-style biosketch.

7. Path to graduation (one page). Estimate of time remaining to graduation, annotated with work to be done including: milestones; classes, training or travel to be undertaken; anticipated manuscript and grant/fellowship submission. This one-page overview should be updated and distributed at subsequent thesis committee meetings.

Doctoral Boards Oral Qualifying Examination

The Doctoral Board Oral Qualifying (DBO) Examination focuses on the student's readiness to engage in the proposed thesis research. As this is cross-disciplinary, students must be able to demonstrate extensive background knowledge and familiarity with the relevant literature in the fields that make up their research.

The DBO Examination has three major objectives:
1. To assess a candidate’s proficiency in the discipline.
2. To give a student the benefit of a critical examination of his or her work by scholars outside the department or program.
3. To provide a means for extra-departmental monitoring of the academic quality of departments and programs sponsoring candidates.

General Format:
During the exam, students are required to:
- Present their thesis proposal;
- Respond to questions about the proposal;
- Respond to questions that are not necessarily limited to the proposal, but demonstrate the student’s knowledge and readiness to begin thesis research.

The goals of the exam are: (1) to test the depth and breadth of knowledge; (2) to test the student’s ability to synthesize the material gathered in support of the thesis proposal; and (3) to test the ability of the student to formulate and interpret experiments to test specific hypotheses. The overall goal of the exam is to assess the student’s readiness to undertake a PhD thesis project.

Students are initially examined on their thesis research proposal, although questions are expected to extend into other areas to explore the student's depth and breadth of knowledge. Ideally, students should target the end of their first year as a goal for the
DBO exam. Students must take this exam no later than 24 months after matriculation.

Exam Committee:

**Oral Examination Committee Eligibility.** To be eligible to serve on a Doctor of Philosophy Board Oral Examination Committee, a faculty member must hold:
- A faculty appointment as a Professor, Associate Professor, or Assistant Professor in a University department/program. Such appointments may be regular or visiting, full-time or part-time.
- Exceptions. The Associate Dean for Graduate Students must approve anyone not meeting these criteria. To be considered for approval, the chair of the program petitioning for authorization of an examiner outside of the University must submit:
  - The full curriculum vita of the outside examiner, including recent peer-reviewed publications and evidence of scholarly work
  - A one-page summary of the research of the Ph.D. student
  - A one-page letter explaining how the expertise of the examiner meshes with the student’s research and why the department must go outside of the University to have this expertise represented on the committee.

The above request and documentation should be submitted to the Associate Dean for Graduate Biomedical Education for approval a minimum of four weeks before the scheduled Doctoral Board Oral Examination. Written approval from the Associate Dean for Graduate Biomedical Education and all documentation should then be submitted to the Registrar’s Office, along with the exam committee form for final approval.

**Composition of the Oral Examination Committee.** The composition of the Oral Exam Committee should be a balance of faculty with expertise in the fields of science represented in the cross-disciplinary work proposed by the student. This balance should be such that the student is examined in both fields.

Members of the DBO examination committee are approved by the Associate Dean/Registrar. The chair of the committee is selected by the Associate Dean/Registrar, based on rank and seniority at rank. Only JHU full-time tenure track faculty, holding the rank of Professor, Associate Professor, or Emeritus Professor, from outside the candidate’s department are eligible to serve as Chair of the DBO committee. However, in addition to tenure track faculty, faculty who hold the rank of Assistant Research Professor, or Associate Research Professor, can serve as regular members of the committee.

Although consultation between the student and his or her faculty advisor regarding possible exam committee members is appropriate, final selection of committee members is the responsibility of the Program Director.

Neither of the student’s advisors can serve as a committee member, but they should be present at the beginning of the exam to briefly review the student’s research progress for the committee.

**Inside and Outside Examiners.** A minimum of 2 committee members must be from inside the departments represented by the student’s cross-disciplinary work, and a
minimum of 2 committee members must be from outside of these departments. The fifth committee member may be inside or outside this restriction. The primary or secondary departmental appointment of a faculty member will generally determine whether he or she is considered inside or outside the department. An alternate is selected for the inside member, and a second alternate is selected for the outside member. These alternates will be called upon in case one of the regular members of the committee is not able to serve at the day of the examination.

The XDBio Program Director may request that certain core faculty whose primary appointment is outside the department be considered as inside examiners. These requests must be approved by the Doctor of Philosophy Board, and the names of such identified faculty and the criteria for their selection must be made available to the Associate Dean/Registrar on an ongoing basis.

**Notification of Committee Members.** After the Associate Dean/Registrar approves the examination request, the original request form will be sent to the program administrator, who will forward the form and examination instructions to the Committee Chair. The Associate Dean/Registrar will maintain one copy. After this point, no substitution of examiners other than those named as alternates can be made without the approval of the Associate Dean/Registrar. The chair or program administrator of the program sponsoring the candidate is responsible for notifying the student and examiners of the time and place of the examination.

Once a faculty agrees to serve on the DBO exam committee, and an exam date has been set, it is critical that the student note the cell phone number of the faculty member in case that member needs to be contacted on the day of the exam. The student should remind the faculty a week before, and then a day before the exam via email. These precautions make it much more likely that there are no glitches in taking the exam.

**Length of the Exam.** The examination should be long enough for the committee to learn as much as it needs to judge the student’s qualifications as a Ph.D. candidate. Ordinarily, examinations should be under two hours, but committees are free to set their own time limits.

**Oral Examination Procedures.** The chair of the examination committee will begin the meeting by introducing the committee members. At this time, the candidate will be asked to leave the examination room. The Anchor Advisor will make a brief introduction of the candidate. The committee members may discuss the candidate’s submitted thesis proposal at this time. After this discussion, the candidate re-enters the examination room and the exam commences. The candidate is not expected to provide a presentation of their research. Typically each committee member will conduct a 15 minute question session.

At the conclusion of the examination, after a vote has been taken, the chair of the examination committee should record the results of the examination and have each committee member sign the form. The chair should also sign the form and fill in the date. The completed form must be given to the candidate’s program administrator directly following the examination. **In no case should the form be given directly to the student.** The program administrator is responsible for sending the original form to the
Registrar’s Office within one week of the exam date.
- If the candidate receives an unconditional pass (e.g., a majority of favorable votes), the examination committee is discharged.
- If the candidate receives a conditional pass, the exact terms of the condition are to be reported on the examination form, i.e., what course(s), if any, need be taken; in what timeframe the conditions(s) should be met; and any other pertinent information that will point out clearly to both the student and faculty how to satisfy the condition(s). As soon as all conditions have been met, the chair of the examination committee must write a letter to the Associate Dean of the Registrar of the School of Medicine informing them that the condition has been removed. A copy of this letter must also be sent to the Program Director and the Program Administrator. The committee is then discharged.
- If the candidate fails, the examination committee, through the chair, should recommend a course of further action:
  o No further examination.
  o Re-examine the candidate by the same committee at a later date. The candidate must receive a Pass or Conditional Pass on the second attempt. A second failure will lead to dismissal.
  o Re-examine the candidate by a different committee at a later date. Reasons should be given for the change in the committee membership. The newly formed committee must have representation from the previous committee. The candidate must receive a Pass or Conditional Pass on the second attempt. A second failure will lead to dismissal.

The committee may recommend whatever action in its judgment seems desirable, taking into consideration the background of the student, previous performance, potential, and reaction to oral questioning. The Doctor of Philosophy Board will be guided by these recommendations, but will assume responsibility for whatever action is taken.

Duties of the Chair of the DBO Examination Committee. These duties include:
- Preside at the examination.
- Instruct the committee as to the scope, character, and conduct of the examination before questioning begins.
- Allot time to inside and outside examiners.
- Report the results of the examination to the program administrator immediately after the examination, using the original examination form. The program administrator must send the signed original to the Registrar’s office within one week of the exam date.

In the case of a conditional pass or failure, to monitor the further action recommended.

Reports and Records of Oral Examinations. Immediately after the examination, the chair of the examination committee should tell the candidate in person whether he or she passed or failed the examination, or received a conditional pass. It is crucial that the chair of the examination committee (and not the student) send the results of the examination (the signed form) to the program administrator immediately after the examination. The program administrator will then send the results to the Registrar’s office.
Should a student fail or receive a conditional pass, the Associate Dean/Registrar will formally notify the program director in writing. The Registrar’s Office enters results of each examination into the student’s official record.

**Year Two Requirements**

*Continue small group tutorials, nano-courses and other courses.* As the scientific topic and the methods needed for the thesis project become more clear, the student should continue to take courses that will support this work. Independent study is also recommended.

**Thesis Proposal & Thesis Committee Selection**

After successfully passing the DBO qualifying exam, students begin to prepare for their first thesis committee meeting. The first meeting is scheduled soon after the DBO has been successfully passed, no later than six months after the DBO is passed. The student adds detail to their initial thesis proposal, and moves it into the format of an NIH/ NSF fellowship application. Preliminary data can be included if available, but are not required.

Students ask faculty to serve on their thesis committee. Committees consist of three faculty members who are experts in one of the student's area of research, and their thesis advisors. Committee members do not need to be members of XDBio. A "thesis committee form" is signed by all committee members to document the meeting. One member of the committee will be chosen as chair (this cannot be one of the Advisors). The chair is responsible for completing the evaluation and summary sections of the Thesis Committee Meeting form, with consultation from all committee members.

Students are responsible for scheduling their thesis committee meetings, but in case of difficulty the XDBio program manager will help. A schedule for planned annual thesis committee meetings should be outlined in the first meeting. XDBio students, Anchor Advisors, Co-Advisors and Thesis Committee members must complete and sign the Thesis Committee Meeting form that contains written feedback on the student’s progress.

**Thesis Advisory Committee.** The Thesis Committee is intended to assist the student and provide critical review of progress, methods, etc. The Committee meets periodically to assess the student's progress, evaluate the research plan for the coming period, and provide constructive criticism for the student and his or her supervisor. These meetings also provide an opportunity for the committee to advise students on their career development, and to assess progress of the student by faculty who are independent of the thesis supervisor.

The Committee consists of the Anchor and Secondary Advisors and at least two other faculty members chosen jointly by the student and supervisor. The members should be selected for their expertise and willingness to advise the student and their thesis supervisor throughout the duration of the thesis research. The most senior member of
the committee (other than the Anchor Advisor) serves as the “chair”, and should fill out
the required information on the thesis committee report form after discussion with the
committee. If one or more members of the committee are not able to physically attend
a meeting, they may participate in the meeting using tele-conferencing.

The Thesis Committee’s first milestone is to meet and approve the student’s thesis
proposal. After this step has been completed, the committee then meets once a year
unless there is some indication that more frequent meetings would be useful. Thesis
committee meetings should begin with a student presentation of scientific progress.
The presentation is then followed by closed-door deliberations. Thesis meetings must
be completed at least once per year (this clock starts from time of passing of DBO) to
remain in good standing.

At least one week before each meeting of the Thesis Committee, the student must
provide each member with a written statement detailing progress on the thesis
proposal during the preceding period. Plans for the next period should be outlined in
this statement.

The thesis proposal must be provided to each committee member at least 2 weeks in
advance of that meeting. Each member of the committee should also receive a copy of
the previous committee report. Without timely delivery of these documents, the
meeting cannot proceed in a productive manner. At the beginning of the meeting, the
committee may wish to ask the student to step out of the room so it can consider its
response to the thesis proposal or student report and the most appropriate way to
proceed in its discussion with the student.

After each meeting of the Thesis Committee, including the thesis proposal meeting,
the chair of the Thesis Committee submits a report to XDBio Program Manager. The
report should summarize the student’s progress and the results of the committee
meeting. Copies of that letter are distributed to the student's Advisors and to the
student. This report is placed in the student's file.

Meeting #1: Evaluate the development of thesis proposal. A list of the faculty who have
agreed to be on the Thesis Committee, together with the scheduled date and time of
the first meeting must be submitted to the XDBio Program Manager within 6 months of
passing the DBO exam. The goal of this first meeting is to discuss the scope of the
thesis in an outline form, review background literature, review preliminary
experimental results, and lay plans for formulating the thesis proposal.

Subsequent Meetings : Evaluate progress during previous year. This meeting must take
place within 12 months of meeting #1.

Grant requirement. There are number of fellowships that are available to XDbio
graduate students. In their first and second year in the XDBio Program, most graduate
students are eligible to apply for an NSF fellowship (deadline is November annually.
After completion of the Thesis Proposal, most students are eligible to apply for an
NRSA fellowship from the NIH (deadlines are in April, August, and December annually).
Additional opportunities include fellowships from the American Heart Association, the Ford Foundation, etc. Fellowship opportunities for international students include the HHMI International Student Research Fellowship and the Boehringer Ingelheim Fonds fellowship. Students who secure and begin an external fellowship that is nationally competitive and merit-based receive a one-time bonus of $3,000, per School of Medicine policy.

Years Three & Four Requirements

Thesis Research

Thesis Research
All XDBio trainees are required to register for a "research" course each fall and each summer. This course reflects the work the student is doing in the lab and is graded by their advisor.

Thesis Committee Meetings
The Mentoring meeting continues to be an annual requirement before each thesis committee meeting. Following the initial thesis committee meeting in year two, students are required to meet annually with their committees. Committee members may change as the research project warrants. Beginning for students entering the program in 2011, the annual meeting must be held by the date of the first meeting to remain in good standing in the program (e.g. if the first meeting occurs May 15 2013, all subsequent annual meetings must be held on or before May 15). The XDBio program office will send out reminders about 60 days in advance, but it is the student’s responsibility to schedule the meetings. Scheduling well in advance is the only way to ensure meetings will be held by the annual date. For thesis meetings in year 3 and later, students prepare a short progress report, clearly outlining what was known at the last meeting, and what progress has been made since. In year 4, students are required to include a written thesis completion plan and future career goals in their update.

The thesis committee meeting form discussed above is completed by the chair of the thesis committee, and submitted to the Program Manager to document each meeting. Feedback from the faculty is a valuable aid to students for completion of the program in a timely manner. These forms also serve as written feedback for each student regarding their research progress. If the form is not received, the student's laboratory will not be open to accept new rotation students until the meeting is held and reported. The form from the previous meeting will be distributed to the committee members in advance of the next meeting.

When a student is nearing completion of his/her research, the "final phase" box is checked on the thesis committee meeting form. A student in the final phase is expected to complete all experiments, write the dissertation and present the thesis seminar within 6 months. Since the final phase approval indicates that the student may write the dissertation when listed requirements have been met, it is important to prepare a careful list of requirements on the thesis form. This box should not be checked if the student has significant experimental work to complete. Failure to
complete all requirements within 6 months will require that another thesis meeting be held.

After five years (4 thesis meetings), if a trainee is not in the final phase, they are required to meet with their thesis committee every six months, with the XDBio Director present, who will monitor the student’s plan for completion in consultation with their advisor.

**Departmental Requirements**: Journal Club and Seminar Participation

Students are encouraged to attend and participate in departmental seminars and Journal Clubs. XDBio trainees are expected to attend at least one seminar per week offered by one of the two departments involved in the student’s cross-disciplinary work. These seminars are usually presented by outside speakers. In addition, trainees are expected to participate in Departmental Journal Clubs where current journal articles are discussed jointly with faculty and postdoctoral fellows (the lab group meeting does not meet this requirement).

There is no XDBio registration or grade for seminar and Journal Club participation, however, a student's department may require registration and assign a grade.

**Final Year Requirements**

**Dissertation Requirements and Graduation**

Thesis research must be a significant contribution to knowledge and be worthy of publication in its present form. Acceptance the thesis research is in partial fulfillment of the requirements of the degree of Doctor of Philosophy.

Usually in year four or five, the student's thesis committee agrees that the student is nearing completion of his/her research. When a student receives a “final phase” check at the thesis committee meeting, they are expected to complete any remaining experiments, write their thesis, and get approval from their Thesis Advisor and reader (in the form of a signed readers’ letter) within 6 months. The student's research is usually published in one or more scholarly journals prior to the dissertation being written. The institution requires that the dissertation is a “publishable body of work.” The XDBio program expects that each student will publish at least two first author papers from their thesis work, but this is not an absolute requirement for graduation. Specific formatting guidelines must be followed for the dissertation, and are described on the JHU web site: http://guides.library.jhu.edu/etd.

In case of any disagreement between a student and their Advisor, the student’s thesis committee and the Program Director will make a final decision regarding degree completion.

Once the requirements for graduation have been met, students can complete the XDBio program and receive the doctoral degree at any time during the year. The university confers degrees in a Commencement ceremony in May. The XDBio website has descriptions of the degree completion paperwork and deadlines by which this paperwork needs to be submitted to receive a degree prior to Commencement.
Once the thesis committee has approved the student to begin the final phase, the student should write their thesis. The Dissertation should be prepared in consultation with the thesis advisor. It should begin with a general Introduction, which summarizes the history of the general area and the problem. Following the chapters which present and discuss the various experimental results, there should be a general discussion which addressed the implications and limitations of these findings, sets them within the context of related work in the literature and points to some future directions. The Advisor(s) reads and approves the thesis, and it is given to a second Reader (member of thesis committee) who reads and provides feedback on the thesis. If both Advisor and Reader approve the thesis, they write a letter to the MA PHD committee recommending the thesis be accepted in partial fulfilment of the requirements for the doctoral degree. Once this letter has been received, the student schedules a thesis seminar in the student’s department. The final corrected thesis must be submitted to the library to complete the graduation process within 2 weeks of the thesis seminar. A waiver to this deadline requires the approval of both the student’s thesis advisor and the chair of the Thesis Committee.

If the Dissertation has not been submitted to the Readers within 6 months of the final thesis meeting, another thesis meeting needs to be scheduled. A waiver to this deadline requires the approval of both the student’s thesis advisor and the chair of the Thesis Committee.

**Extension beyond Year Five**

If a student is not in the final phase by Year 6 (72 months after matriculation), they must prepare a written request for extension, co-signed by both their Anchor and Secondary Advisors. The request should include a summary of work completed, work planned, and a timeline. The XDBio Advisory Board will review the request, and then the student and advisors will meet with the Board to explain the situation and answer questions. The policy committee will then vote on whether to approve the extension. The same process must be repeated every 12 months if the student has not reached the final phase. If the Advisory Board determines that the student is not making adequate progress or meeting defined deadlines, the student may be dismissed from the XDBio Program.

**ADDITIONAL POLICIES**

**Awards.** Young Investigator's Day, a School of Medicine sponsored event, provides recognition and cash prizes to students who have conducted outstanding research. There are also annual first year student awards made from private funds (Turock, Drescher, Kelly Awards). Students can also win awards for presentations, including the 3 minute thesis competition.

**Internships.** The Johns Hopkins University School of Medicine will facilitate internships for Ph.D. students in fields outside academic research, such as Research and
Development in biotech companies; technology transfer; science administration; science policy; science education; and scientific writing. Internship opportunities are coordinated by the Professional development and Careers Office (PDCO) and the Biomedical Careers Initiative within PDCO.

Students who are invited for an internship will be asked to submit a Memorandum of Understanding (MOU) signed by the Ancho Advisor, the Secondary Advisor, the XDBio Program Director, and the Associate Dean of Graduate Biomedical Education, ensuring that all parties are in agreement. This document should specify which entity will be responsible for the student stipend and health insurance for the duration of the internship. A student who signs up for a full-time internship (2-6 months) may be placed on Leave of Absence (LOA) for the duration of the internship or enroll in an Internship Practicum Course for credit.

Students of Faculty Who Leave Johns Hopkins. On occasion, faculty members change institutions; the following policy has been developed to ensure that all parties will cooperate in a responsible manner to make sure that individual students make timely progress toward degree completion deadlines.

Students admitted to the XDBio program will be permitted to move with an Anchor / Primary advisor but they will no longer receive funding associated with the XDBio program if they leave JH SOM. If they move with their advisor, the following conditions must be met and agreed upon by all parties before the student will be allowed to move:

- Semi-annual thesis meetings at Johns Hopkins (or by Skype or other video conferencing) must be held to remain enrolled in the XDBio program. The Co-Advisor will be the chair of the thesis committee.
- Failure to meet the semi-annual thesis meeting requirement is a serious issue; it is viewed as a failure to progress and will lead to dismissal from the XDBio program and loss of funding.
- All competency requirements must be met, as described above. These may be met by activities occurring at the new institution, if appropriately documented.
- Students are encouraged to inform the XDBio Program Director of any extenuating circumstances that may interfere with their progress.
- The thesis seminar must be held at Hopkins, and the Anchor Advisor must be present.
- The Anchor / Primary advisor, Co-Advisor and student must meet with the XDBio Program director to sign a document that agrees to these rules. Permission to move and remain in the program is contingent upon this agreement.

Students who move with advisors and meet all of the criteria and conditions above will receive the PhD degree from the Johns Hopkins School of Medicine.

If a student chooses to remain at Johns Hopkins while their Anchor / Primary Advisor changes institutions, the program will support efforts to locate the student in a new lab. The Co-Advisor’s lab may be considered, even if the Co-Advisor does not meet the requirements for Anchor/ Primary Advisors under normal circumstances. If a Co-Advisor changes institutions, the program will support the student in finding a solution, on a case-by-case basis.
General JH SOM policies

University requirements for the degree of Doctor of Philosophy:
- Minimum of two consecutive semesters of registration as a full-time, resident graduate student.
- Successful passing of the Doctoral Boards Oral Examination.
- Dissertation approved by at least two readers and certified by them to be a significant contribution to knowledge and worthy of publication.
- Certification by the Program Director that all requirements have been fulfilled.
- Submission of a dissertation to the library that adheres to the Doctor of Philosophy Board Dissertation Guidelines.
- The Program may determine the allowable time to complete degree requirements but in no case may that time exceed 8 years. Any approved leave of absence does not count toward the 8 year time limit.

To be considered a registered full-time student, a graduate student must engage in a full-time program of courses, seminars and/or research as approved by the graduate program. The School of Medicine does not define full-time in terms of credits, courses, or any other such unit. To qualify as a resident student, the student must be present on one of the JHU campuses and working toward fulfilling the requirements for the degree.

Registration. Students must register each semester from matriculation through graduation. A student's departure from the School of Medicine without an approved leave of absence will be deemed a permanent withdrawal from the student's program. If on leave, students are expected to provide the Registrar's Office and their program with an updated current address, and are expected to respond to all communications and mailings within the deadlines specified. Students who withdraw from the program must be formally readmitted, at the discretion of the Program Director, before they may return to the School of Medicine. Failure to register by the published deadlines of the School of Medicine may be interpreted as a withdrawal from the program.

Vacation & Leave Policies. The XDBio program follows the policy for graduate student leave and voluntary leave of absence at the School of Medicine.

Vacation. Beyond the official University holidays and breaks, students may take three weeks of vacation. The Anchor Advisor may grant additional time off. The Co-Advisor should be made aware of all vacations and time away.

Sick Leave. Students may take 15 days (3 weeks) of sick leave per year. This can be applied to pregnancy and childbirth. Under special circumstances, this period may be extended by the XDBio Program Director or the Anchor Advisor. Sick leave is not accrued. For medical leave of absence, health insurance may be paid by the Advisor for up to one year.

A period of terminal leave is not permitted and payment may not be made from XDBio funds for leave not taken.
Parental Leave. Parental paid leave of 20 days per year (4 work weeks) can be used for the adoption or birth of a child. Parental leave does not carry over from year to year. Sick leave can be applied to pregnancy/childbirth. Sick leave and parental leave can be combined for a 7-week total per event (birth or adoption). Under special circumstances, and in consultation with the faculty advisor, this period may be extended by the program director.

Voluntary Leave of Absence (LoA): A student may request a voluntary leave of absence for reasons including the following and must provide the proper documentation for their given situation, as indicated below:
- medical condition, including mental health conditions: a letter from the treating physician
- military service: a letter or verification from the Armed Forces
- personal or family hardship: a letter from the student applying for leave
- internship (typically 2-3 months): a letter from the entity/organization at which the student will be interning

Additional Notes:
- Leave may not exceed 2 years cumulative.
- A student does not receive a stipend from the University during leave. During an internship, the stipend, if any, is paid by one of the internship sponsors.
- The period of the leave is not included in "time to degree."
- Degree progress may not be made by students while on a leave of absence – including completion or submission of the dissertation. Requests for exceptions to this rule must be submitted by the graduate program to the Associate Dean for Graduate Biomedical Education.
- A student cannot be enrolled in a degree granting program at another institution during a LoA.
- A student who has received federal financial aid, including undergraduate loans, may be subject to additional restrictions and should check with the Financial Aid Office before starting a LoA. The SOM Registrar must report students on LoA to the National Student Clearinghouse as withdrawn from student status. This will impact student loan payments.
- LoA impacts an international student's status. International students should contact the Office of International Services at least thirty (30) days before starting a LoA.
- Continuation of health insurance is required during LoA. For more information including SOM policy on medical insurance, dental insurance, University Health Service, insurance premium payments, waiving benefits, eligibility to defer loans, termination of an LoA and COBRA, communications, and student account activity, refer to the Masters and PhD Candidates on Leave of Absence memo from the Registrar's office and the Waiver of SOM Benefits for Students on LoA form.

Please see the Graduate Student Policies page for information about initiating Leave of Absence, returning from Leave of Absence and for other relevant policies.

Outside employment policy. Full-time graduate students are expected to devote their entire professional effort to completion of the degree requirements for their graduate programs. Accordingly, employment and/or consulting by full-time graduate students, for organizations other than Johns Hopkins University, is ordinarily not allowed. When a graduate student has completed oral exam requirements and has progressed
sufficiently toward completion of the dissertation requirements, he or she may request an exception to this policy. (The procedure for initiating such a request is available from the XDBio Manager). In no case should such an exception commit the full-time graduate student to an outside commitment in excess of sixteen (16) hours per week. Students are reminded that adherence to this policy and full written disclosure of proposed outside employment is considered part of their commitment to abide by the Johns Hopkins University School of Medicine honor code in their professional interactions.

ADMISSIONS

The XDBio program will admit five students a year. There is an active recruitment program to encourage underrepresented minority (URM) students to apply to the XDBio program, including annual recruiting trips to the major undergraduate minority science student conferences.

Key dates:
Application deadline: December 1
Interviews: January / February
Offers: Before April
Response to offer required: April 15

Admissions Committee. The Admissions Committee consists of members the IBBS Faculty and key members of SOM Leadership. The Admissions Committee assists the XDBio Program Director in setting priorities for the admission process and in reviewing all XDBio graduate program applications. The application deadline is December 5, at which time the Admissions Committee begins the selection process for the following year.

Students can only transfer into the XDBio Program from another institution by participating in the normal admission process. Because of the nature of the program, no courses or credits will be transferred. The program will not accept transfers from other JHU pre-doctoral graduate programs.

Interview Weekend(s) & Offers. An Interview weekend in January or February. Applicants who can travel to Hopkins, will have separate, one-day interviews with faculty arranged. Skype interviews will be arranged, as needed. Details about the format and agenda of the interview weekend will be provided to invited applicants.

Candidates offered admission are required to respond before April 15.

International Applicants. While the XDBio program will accept applications from all students, including international students, our funding model significantly limits the admission of students who are not US citizens or permanent residents. Exceptionally qualified international applicants with demonstrated research experience may be considered for admission. If these applicants are unable to travel to the US, they may be interviewed by Skype.

Program Effectiveness
The JH SOM Office of Assessment and Evaluation will determine if the innovations described are effective tools in graduate education. This Office will also play a key role in identifying ways to assess student performance. XDBio is both an incubator for innovations and a unique opportunity for a specific subset of students to progress in their development as future innovators in biomedical discovery.

Rights and responsibilities of PhD students

The following statements are university policy regarding Ph.D. students. Ph.D. education is fundamental to the University’s teaching and research mission. For an intellectual community of scholars to flourish, it is important to acknowledge the principles that underlie the compact between Ph.D. students, the faculty, and other members of the University community. It is in this spirit that the Doctor of Philosophy Board, in collaboration with faculty and students from across the University, has articulated a statement of rights and responsibilities for doctoral students at Johns Hopkins. The principles described in this document are to be realized in policies established by the various Schools of the University; the Schools will also develop mechanisms to monitor and enforce such policies.

RIGHTS

1. Ph.D. students have the right to education, supervision and training. This includes access to the classroom, laboratory and teaching opportunities necessary for completion of degree requirements, appropriate and regular faculty supervision consistent with the norms of the discipline, as well as appropriate research and/or clinical experiences.

2. Ph.D. students have the right to full and regular access to information about the requirements for the degree. This includes information regarding program requirements, assignment/selection/change of advisor, expected time to completion, graduation rates, and conditions of financial support.

3. Ph.D. students have the right to conditions of learning, teaching and research that are appropriate and reasonable for their discipline. This includes the right to information and ongoing consultation regarding their expected effort and specific duties, as well as clearly stated criteria for participation in collaborative work and/or research.

4. Ph.D. students have the right to be treated in a respectful and professional manner by all members of the University community. This includes freedom from discrimination and harassment as well as assurance of reasonable confidentiality in their communications, as governed by university policy.

5. Ph.D. students have the right to receive, on a regular basis, written evaluation of their progress and to be informed of the criteria upon which the evaluation is based. Students should also be provided with opportunities to discuss such evaluations with their advisor. Each program should make available their policies concerning academic probation, funding withdrawal, and dismissal; reasonable warning should be provided in advance of dismissal based on failure to make satisfactory academic progress.

6. Ph.D. students have the right to appropriate recognition for their contributions to research and scholarship. This will require discussion between the student,
advisor and other relevant parties regarding expectations for student contributions and the nature of the recognition.
7. Ph.D. students have the right to academic freedom. This includes the right to express, without reprisal, independent opinions about scholarly issues (such as opinions regarding theoretical and methodological debates in their disciplines), opinions regarding matters of institutional policy, concerns about suspected research misconduct and personal opinions on public matters.
8. Ph.D. students have the right to have their views represented in the development of policies that govern the Ph.D. Student ideas and perspectives should be solicited and considered if substantive changes in the structure of a Ph.D. program are anticipated.
9. Ph.D. students have the right to clearly defined policies regarding benefits and nonacademic issues pertinent to their student status. These policies should cover (but not be limited to) such things as the provision of health care, recognition of family responsibilities, leave, vacation and other absences. These policies should acknowledge that students can, without reprisal, form clubs, associations or organizations around common interests, as long as these are consistent with general non-discrimination policies of the University.
10. Ph.D. students have the right to accessible procedures for redress of their grievances. Each School within the University must provide mechanisms to ensure that grievance procedures are fair and without reprisal. These procedures should include Ph.D. student representation, as appropriate.

RESPONSIBILITIES
1. Ph.D. students have the responsibility to inform themselves of the requirements of their programs.
2. Ph.D. students have the responsibility to dedicate appropriate effort and time to meeting the requirements of their programs.
3. Ph.D. students have the responsibility to uphold the ethical responsibilities of their profession and discipline. This includes honesty in academic coursework and scholarship, integrity in the use of grant and fellowship funds, and the upholding of ethical norms in the conduct and reporting of research methods and results.
4. Ph.D. students have the responsibility to treat all members of the University community in a respectful and professional manner.
5. Ph.D. students have the responsibility to contribute to the intellectual life of the University and to the advancement of education and scholarship.
6. Ph.D. students have the responsibility to understand and fulfill their role in developing and maintaining a professional relationship with their faculty advisor(s). This includes the responsibility for communicating regularly with advisors, maintaining a mutually agreed upon schedule of meetings, and informing advisors of such things as: the current status of their degree work; any expected deviations from the agreed upon program of studies; and any unanticipated absences.
7. Ph.D. students have the responsibility to recognize the contributions to their research and scholarly publications made by their advisors and other colleagues. This will require communication and consultation with these individuals about the nature of the recognition.
8. Ph.D. students have the responsibility to fulfill their teaching, research and/or clinical commitments and duties in a responsible manner. This includes the
responsibility to inform themselves of the requirements of these positions, to maintain the established ethical standards of interaction with students, faculty, patients and/or research participants, and to respect the privacy of information shared with them.

9. Ph.D. students have the responsibility for the appropriate use of university resources and equipment.

10. PhD. Students have the responsibility to abide by the established rules and policies of their program, school and the University.