



**National Institutes of Health
Oxford-Cambridge Scholars Program
Student Handbook**

**MD/PhD Partnership Training Program
Churchill Scholars
Marshall Scholars
Rhodes Scholars
Gates Cambridge Scholars**

2009-2010



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INTRODUCTION

NIH Oxford-Cambridge Scholars Program

The NIH Oxford-Cambridge Scholars Program is designed to offer challenging international doctoral training for highly accomplished students interested in careers in basic or clinical biomedical research. This program encompasses six distinct but training opportunities: the National Institutes of Health-Oxford University Scholars in Biomedical Research Program, the National Institutes of Health-Cambridge University Health Science Scholars Program, the National Institutes of Health-Marshall Scholars Program, the National Institutes of Health-Rhodes Scholars Program, the National Institutes of Health-Churchill Scholars Program and the National Institutes of Health-Gates Cambridge Scholars Program. Students involved in the Fulbright, Howard Hughes Medical Institutes, or other scholarship programs are also able to participate in these UK partnerships which are based on the recognition that biomedical research must be collaborative on a global scale. The breathtaking pace of contemporary biomedical research is driven by such collaboration that is characterized by rapid communication of results, accelerated commercial and noncommercial dissemination of new research technologies, and the interdependence of research groups internationally for research materials. These programs are based on the belief that scientific training must modernize so as to be responsive to the continually evolving nature of scientific inquiry.

In the NIH-Oxford and NIH-Cambridge programs, each student is given the opportunity to work under at least two different research supervisors - one at the NIH and one at either Oxford or Cambridge - on a project that involves a collaborative undertaking by the two laboratories. Applicants must be U.S. citizens or permanent residents and hold a bachelor's degree, and may also already be enrolled in graduate or medical school. Students carry out research with a goal of earning a Doctor of Philosophy degree (Ph.D. or D. Phil.) which requires spending roughly equal amounts of time at the NIH and at the chosen University. Students enrolled in the NIH-Rhodes program must attend Oxford University, and students in the NIH-Churchill and NIH-Gates Cambridge Programs must attend the University of Cambridge. NIH-Marshall Scholars may be enrolled in any UK university. All students in these programs must be granted an award by the corresponding scholarship fund in order to be eligible. Students who are not U.S. citizens and are enrolled at one of the participating UK Universities are eligible for the Advanced Scholar track which will provide stipend, health insurance and travel expenses, but not tuition or other fees.

During their time at the NIH, students become members of one of the NIH Institutes that collectively constitute a vibrant graduate community that is unique in the nation. While at the selected UK University, the student will be a member of one of the Colleges of which Oxford and Cambridge are comprised and will fully participate in the activities of university and college life. Most doctoral study programs in the UK do not require the

completion of formal coursework and the doctoral degree can be completed in three to five years. Upon completion of the program, the students are awarded a doctorate by either Cambridge or Oxford University.

NIH M.D./Ph.D. Partnership Training Program

The NIH Oxford-Cambridge Scholars Program is also designed to accommodate students seeking combined M.D./Ph.D. training. The NIH Intramural MSTP partnership is a supplement to the Medical Scientist Training Program that funds M.D./Ph.D. training at [41 U.S. Medical Schools](#). The purpose of the NIH MSTP partnership is to allow an integrated program of training at one of these medical schools in concert with Ph.D. research in the intramural program of the National Institutes of Health. This program was approved in December 2005 by the NIH leadership and is funded by individual training supplements from the NIH institutes to the existing MSTP.

Students undertake the Ph.D. portion of their research through one the NIH graduate programs in the Division of Intramural Research (DIR) or through an [individual partnership](#). An NIH scientist serves as a mentor or co-mentor for the Ph.D. portion of the student's training. As with other M.D./Ph.D. programs, all the requirements for the Ph.D. from the University partner department must be fulfilled. In many cases, medical school courses are accepted in lieu of some of the coursework. In all cases, the Ph.D. degree will come from the partner university in which the student is enrolled. Students can enter the NIH MSTP in three ways:

Track 1: Simultaneous admission to both programs. Undergraduate or Post-Baccalaureate students can apply for MSTP programs at medical schools and the GPP during the same admission cycle. If admitted to both programs, the student can enter the partnership MSTP with permission of the GPP and MSTP program directors. The sequence of training in this track would in most cases be similar to the usual MSTP training pathway. Students must apply to medical schools for combined-degree training to be considered for the partnership pathway

Track 2: Admission to Ph.D. training from medical school. Medical students can apply to an NIH GPP program and begin graduate training generally after completing the pre-clinical medical school curriculum. Students in 'year-out' programs such as the [NIH-HHMI Research Scholars Program](#) or the [Clinical Research Training Program](#) can also apply for Ph.D. training in this track. Upon acceptance to the GPP, students can then apply for MSTP status to the MSTP program of their medical school.

Track 3: Admission to medical school and an MSTP during Ph.D. training. Students wishing to pursue this pathway should apply to medical schools for combined degree training (not medical school only) so their applications are considered by the MSTP admissions committee at the medical school. Applying to this pathway during the first or

second year of Ph.D. training is preferred so the training can be as integrated as possible.

ACADEMIC POLICIES

Coursework Required

There is no formal coursework required for the Ph.D. in the UK (D. Phil. at Oxford). It is assumed that the student has already chosen a field of interest and taken appropriate courses as an undergraduate or during a post-baccalaureate training experience. If, however, the two co-mentors determine that it is in the student's best interest to expand his/her foundational knowledge by engaging in further didactic training in specific areas, opportunities will be made available in the UK or at the NIH through the FAES evening school courses or other avenues to accomplish this purpose. Mentors may recommend courses that enhance the breadth as well as the depth of the student's educational experience. More extensive coursework, for example, a Master's course, may sometimes be required by a particular department or when a student is entering a new field of research for he/she is not adequately prepared. An assessment of this need and the recommendation of an appropriate training experience will be made during the first two-month introductory period at the NIH (see below). In addition, during this time, students also may be required to take brief training in travel security, lab safety and other topics as required by the NIH.

Division of Time Between NIH and UK

University residency requirements must be met at the University awarding the degree. The average length of time to degree is to 4 years with approximately 50% of the time spent at the university and 50% at the NIH. Some students may take longer to complete their degrees. The exact sequence of time spent at each institution is set according to the needs of the research. While the program was originally designed to enable students to spend two years in each laboratory, we have built some flexibility into the program. Both Oxford and Cambridge Universities have three nine-week terms each year beginning the first week of October and finishing about mid-June. The Ph.D. (D. Phil.) typically requires that the student spend a minimum of 6 terms in residency at Oxford University or 3 terms at Cambridge University, although there is flexibility such that this may require calendar time rather than adherence to specific term dates. Students seeking these exceptions must obtain written permission from the head of graduate studies at Oxford or Cambridge. NIH-Marshall Scholars and NIH-Rhodes Scholars are required to be in residence in the United Kingdom during the time that they are supported by the Marshall Commemorative Fund and the Rhodes Trust, respectively. Students participating in other scholarship programs such as the Churchill and Gates programs must abide by residency or other requirements of those scholarships. However, winter and summer vacation periods may be spent working at the NIH and the program offers some flexibility for further work if it is essential to the success of the project. Requirements for individual Scholars, especially

those intending to complete the doctorate in three years, should be explicitly discussed in advance with the NIH scientific counselors, your mentor, and the University program directors. Exceptions to the 50% time allocation at the university and the NIH have to be acceptable to both co-mentors and the NIH and University Program Directors; however, NIH regulations require that at least 51% of the training period supported by the NIH be spent in the NIH training laboratories. These arrangements are to be clearly outlined in the student research proposal and timeline that the student submits to the program on October 1st of the first year and which the mentors and class dean approve in writing. The program can also be modified during the course of the training if the student, the co-mentors, and the NIH and University program directors all concur. The Academic Dean of the program will serve as a neutral “third party” facilitator during conversations required to resolve any disputes about the appropriate course of action related to the student’s education plan. The goal of such dialogue will be for all parties to reach consensus on the course of action agreed to be in the student’s best interest while also maintaining the integrity of the program model.

Research Proposals, Examinations, and Progress Reports

During the first two-month introductory period (August and September) and with the guidance of the co-mentors, students will be required to **prepare a 5-page (single-spaced) research proposal with a supporting bibliography**. A copy, signed by both co-mentors, must be **submitted to the student’s assigned Class Dean and the OxCam Managing Director (Bridget Lampert) by Monday of the third week in September**. Thereafter, each year the student is enrolled in the program, he/she must submit by October 1st to his/her mentors, the Class Dean, and the Managing Director a **two to five page research progress report, updated training plan, and updated curriculum vitae**. Without exception, students must also submit to the program their updated address, e-mail, and telephone (land and cell) contact information at least once per year or as the information changes. (See Appendix I for details on research proposals and progress reports.)

At both UK universities, between the first and second years, the student will prepare a formal research proposal or “transfer report” of up to 20 pages which must be submitted to the student’s NIH Class Dean, mentors, and the Managing Director. The content of the report should generally focus on the topic of the thesis. The university mentor will be able to direct the student in the format and completion of this transfer report. The student “defends” this proposal during an oral examination designed to determine if the student is qualified to submit a thesis for the Ph.D. (D. Phil.) examination at the end of the student’s tenure. Upon passing this exam, the student is “transferred” into full status as a doctoral student at the University. In that year, the student may submit the transfer report in place of the annual progress report. While the program has not customarily required students to present a seminar on their theses, this can be arranged independent of the examination on a case-by-case basis. If, as a result of this assessment, the student is not considered to be on track for a Ph.D. within the normal time limits, the assessors may recommend

discontinuation or registration for a lower degree (for example, in Cambridge, the Masters of Science Degree) and the time frame for completion will be abbreviated as appropriate.

NOTE: ALL PROPOSALS, ABSTRACTS, PUBLICATIONS, ONE BOUND COPY OF THE THESIS AND ANNUAL UPDATED CVs SHALL BE SUBMITTED TO THE MANAGING DIRECTOR OF THE PROGRAM (lampertb@niaid.nih.gov).

Guidance and Procedures at University

As a student at the university you will need to be sure to follow certain university guidelines and procedures. For example, each university has a different requirement for students who “work away,” which is what you will be doing during the time that you are at the NIH. In order to receive credit for the time that you “work away,” the university must grant you permission to do so and typically approve these requests. You will complete an application for “Leave to Work Away.” You should also be sure to alert your College of when you plan to leave the UK and go to the NIH. Each university offers very helpful information at the following websites:

University of Cambridge - <http://www.admin.cam.ac.uk/offices/gradstud/current/>

University of Oxford-

<http://www.ousu.org/about/campaigns/a/ISC/handbook/?searchterm=international%20student%20handbook>

Dissertation Requirements

When the student, co-mentors, and the GPP concur that the student has completed a substantial body of work, the student prepares a written dissertation and submits it to the university. The university chooses an internal and an external examiner with expertise in the student’s area of research (the external examiner could be the student’s NIH adviser, for example, but not the NIH supervisor/mentor) and the student gives an oral defense in a private meeting with the examiners in the U.K called the Viva. The examiners submit written evaluations to the university, where a committee then decides whether to grant the degree. The committee members evaluate the extent to which the student demonstrates mastery level knowledge of the field and has developed a substantial body of original work. A more detailed description of the process is available from each university. For example, the Cambridge University instructions are appended at the end of this handbook (see appendices IV and V).

Certificate of Advancement

The University criteria for graduation are the sole standard used to determine whether or not a degree is to be conferred by the University. However, the NIH OxCam Program has the ability to enforce its own standards of achievement in order for students to remain in good standing in its program. The NIH OxCam Program requires that all enrolled

students maintain excellence and integrity in their research, comply with all NIH guidelines and policies for intramural research, and that they publish at least one first-authored paper in a respected, peer-reviewed publication based on outcomes from their doctoral research. When a student receives a doctoral degree from the University, the Academic Committee will assess whether these criteria have been met to the satisfaction of the program, and if so, the committee will award a Certificate of Advancement during the year of graduation.

COLLABORATIVE PROJECTS

Introduction

One of the unique aspects of the NIH Oxford-Cambridge Scholars Program is its mentor selection timeline. In traditional U.S. Ph.D. programs, students do laboratory rotations of 1-3 months duration with potential mentors. This allows both student and mentor to test out a working relationship before making the commitment to collaborate for the degree and dissertation research. By contrast, UK Ph.D. programs tend to recruit students directly to work with an individual mentor, often times with a pre-specified research project in mind. The Oxford and Cambridge Partnership Programs take a middle path. After being accepted into the program, students spend the following few months researching and corresponding with potential mentors. They meet with these mentors during the NIH and UK visit weeks at the end of June, at which time they finalize their mentor selection. The research proposal is developed during the months of August and September, and the student begins the PhD research in October. This model allows for an accelerated program of training that puts students on track to become autonomous scientists during their most productive younger years.

The principal defining feature of the program, however, is the collaborative research project. Each student identifies at least two mentors, one at NIH and one at either Oxford or Cambridge. Students are therefore members of two different laboratory research environments in two different countries, thereby giving them a unique opportunity to bridge cultural and disciplinary boundaries in their research. Learning how to navigate through the obstacles presented by these differing viewpoints is exciting, but it can also be extremely challenging. From researching potential mentors and developing a project proposal through until the thesis defense, careful planning and communication are the keys to a successful collaboration.

Initiating the Mentor Selection Process

This is one of the most important parts of the educational process, as it will determine not only how you spend the next four years, but also it will heavily impact your future in science and help determine the path that your career will take. It is critical to establish a project which is appropriate for you and which involves two mentors who appreciate the

collaborative nature of the program. It is also crucial that the research environment created by the mentors in their laboratories is compatible with your personality, interests, and goals. The [Collaborations page](#) of the OxCam website is an excellent place to begin research into potential mentors. Included on this page is a link to the Collaborations Database, in which you can search for potential projects proposed by interested NIH and UK faculty. Listed mentors have agreed to jointly supervise graduate students and have provided a general outline of the collaboration. Read these very carefully with a mind not only to your current interests, but also with an eye towards the future development of your career. You may contact the researchers at any point and discuss with them any aspect you feel may be relevant to making your choice.

Approximately half of each incoming class selects a pre-arranged collaboration from the database. The other fifty percent choose to independently initiate a collaboration based on their particular interests. The OxCam Program supports both of these approaches equally. There are certain limitations on who may serve as a mentor, however. Mentors are drawn from eligible faculty at Oxford and Cambridge and from among principal investigators at NIH. Principal NIH investigators must hold tenure track or tenured positions, control independent resources, and have obtained approval by their respective Institute's Scientific Director. NIH staff scientists and postdoctoral staff may not serve as mentors but can assist in the training of students. FDA investigators in the NIH community are generally not eligible. Faculty at Oxford and Cambridge must meet the University rules for accepting responsibility for graduate students; postdoctoral fellows are not acceptable mentors.

Your NIH Class Dean and any scientific advisor assigned by the partner university will assist you in the selection of your mentors. If you are especially in need of guidance, the Class Dean may also assign you a special advisor who is an established scientist in your chosen area of research. Often, this individual has developed a sound knowledge of, and perspective regarding NIH faculty and, potentially, UK investigators. These individuals may offer you valuable insights regarding research environments and researcher/mentor styles that you must consider when making decisions about your own research interests/pursuits. Upon accepting your offer of admission to the program, it is important to get in touch as soon as possible with your Class Dean to begin your lab selection. **A personal meeting should be arranged for the first day of the NIH visit week.** Note that if you establish a good rapport with your Class Dean, it is possible for him/her to serve as an outside examiner for your doctoral thesis. The deans for each class are:

Class of 2001, 2002 & 2003	Dr. Ronald Schwartz	rs34r@nih.gov	301-496-1257
Class of 2004	Dr. Richard Youle	youler@mail.nih.gov	301-496-6628
Class of 2005	Dr. Chris McBain	mcbainc@mail.nih.gov	301-402-4778
Class of 2006	Dr. Jennifer Lippincott-Schwartz	jlippin@helix.nih.gov	301-402-1010
Class of 2007	Dr. John Hanover	johnh@mail.nih.gov	301-496-0943
	Dr. Tracey Rouault	rouault@mail.nih.gov	301-496-7060
Class of 2008	Dr. Carol Thiele	thielec@mail.nih.gov	301-496-1543
	Dr. Helene Rosenberg	hrosenberg@niaid.nih.gov	301-496-1543

Class of 2009	Dr. Harris Bernstein	harris_bernstein@nih.gov	301-402-4770
	Dr. Rick Koup	rk173f@nih.gov	301-594-8585
Class of 2010	Dr. BJ Fowlkes	bfowlkes@niaid.nih.gov	301-496-5530
	Dr. David Margulies	dmargulies@niaid.nih.gov	301-496-6429

Strategies for Mentor Selection

Before you begin your search for mentors, you need to have a good sense of your core values and goals. What kinds of scientific questions do you find most interesting? What kind of techniques do you enjoy and/or dislike? What future careers appeal to you? Do you prefer to work in a highly competitive “hot” field, or would you rather be involved in research that while equally important is less high profile?

Once you determine your own values, you need to look carefully at those of prospective mentors and determine whether the two will mesh effectively. You will also need to assess whether this particular PI and his or her lab environment are appropriate for you, both personally and practically. Whether selecting a pre-arranged project or designing one from scratch, there are specific points you may want to consider:

- Is there room for a student in this lab? In general, there is no sense in getting too far into the conversation if a PI is overwhelmed with people or short on research funds. However, if you determine that this is truly the best mentor for you, alert the Program Director for he may be able to acquire additional funds.
- How interested am I in this topic? (A bit obvious, but don't forget to consider this!)
- How much previous lab experience would be needed to get the project going?
- Would I rather start an entirely new project or springboard off an existing one?
- What type of supervision do I want? How much autonomy? How “hands-on” are the mentors?
- What size lab am I looking for? Larger and more diverse in its research projects or smaller and more cohesive?
- What is the lab environment like? (busy, relaxed, friendly, cold, etc.)
- What are my mentors' expectations in terms of work schedule?
- Have the mentors worked with students before? If so, what were their outcomes (time to graduation, post-grad jobs, etc.)? Avoid labs in which students or postdocs stay for excessive periods of time or leave on poor terms with the mentor.
- Do the mentors have existing collaborations? What are their attitudes towards collaborative research in general?

- What kinds of collaborations are available with nearby labs?
- What does the lab offer in terms of journal clubs, presentations, etc...?
- Is the individual's rate of publishing consistent with established standards? Are the person's findings being published in highly regarded journals? (Note--not every publication has to come out in *Science*, *Nature* or *Cell*).
- Is this individual highly productive and actively engaged in his or her research?

Remember, there are no necessarily correct answers to the questions; one student may want a mentor with a very hands-on approach, while someone else may want more independence. It may be difficult to identify mentors who share both your scientific interests and your attitude towards an ideal work environment, but attempt to strike the best balance possible. You may be tempted to focus on the science and ignore compatibility and communication issues, but doing so can create huge problems down the road. You should also remember that a talented mentor's ability to inspire your research and have an impact on his/her student's scientific foundation and future may be more important than identifying a specific thesis topic or discipline.

Additionally, it is vital to consider that most of your time will be spent with other lab personnel and not with the mentor. Therefore, all students are strongly encouraged to visit labs and speak with lab mentors, especially other students, in order to gain insight into their experiences. In order to best ensure your success and satisfaction with your education, you should ask the following questions:

- How independently do most individuals and, in particular, students function?
- Are lab members generally cooperative or competitive? Attend a lab meeting if possible to get a sense of the group dynamics.
- How hard does the PI work his personnel?
- Are there adequate resources for effective research?
- How have past graduate students fared in this lab?
- Is the mentor available and involved when needed?
- Are the current lab employees enthusiastic about the lab in question?

In answering these questions, your potential future lab mates can give you the "inside story" on how the research group functions, helping you determine whether or not the environment is appropriate for you.

If designing your own project, it is helpful to identify one mentor first. You can then work with him/her to identify and approach a collaborator or colleague at the other institution to be your co-mentor, at which point all three of you can establish your project together. Keep in mind that UK scientists are accustomed to a system in which students apply and interview for available positions that they create. They are used to exercising a high degree of control over the selection process, so you should be mindful of this cultural difference and try not to appear too pushy or aggressive.

What is critical to the success of your project, and the program in general, is all parties can successfully communicate and cooperate and that your mentors are fully appreciative of the collaborative nature of the Scholars Program research enterprise. It is important that both mentors understand that the project is meant to be collaboration between and for the benefit of both their research programs. Both mentors should be enthusiastic to see the project succeed and be cognizant of the substantial efforts that success will require. You should therefore be prepared to clearly explain the general philosophy and setup of the program, and how it differs from a typical graduate program (i.e. the 50-50 time split between the two labs). The Mentors Responsibilities and Obligations document (see Appendix VI) should also help clarify the most important points. If you feel that your potential mentors are having trouble understanding the distinctions in our particular model of training, please contact a member of the program administrative staff, who can contact the faculty member to explain the nuances more clearly.

Finally, do not be hesitant to seek out advice and input from many sources, both in terms of choosing who to contact as potential mentors and in deciding who would be the best fit. Your Class Deans should be your first point of contact, but the U.S. and UK program leaders are great resources. Other students in the program, especially those from older classes, can offer you their impressions of individuals you are considering as potential mentors. Keep in mind, however, that each of them will have different interests than yours, scientific and otherwise. You may also benefit from discussions with your previous scientific mentors and associates in college or medical school.

When you attend the NIH and University visit weeks held in late June (described below), you will be able to meet with the mentors of the projects you have identified and finalize your decision.

Developing a Research Proposal

During the months of August and September, students are expected to be on campus at NIH in order to develop their research proposals. Projects should be discussed in detail with both mentors, paying particular attention to the breakdown of specific work to be accomplished overseas and at NIH and to how the different project components can be successfully integrated. Under guidance of their Class Deans and their chosen mentors, the student should develop a specific proposal, 5 pages long, that describes the project,

provides a brief timeline, and delineates which parts of the work will be carried out in which locations. Students and/or mentors may feel that additional formal course work is required to complement the student's knowledge in the area of the chosen subject. If so, the program will help in making appropriate arrangements. Once the student and the mentors have come to a mutual agreement on the project and its particulars, both mentors and the student will sign off on the project description which will be submitted to the student's Class Dean for approval. Students will be required to archive all documents and artifacts related their research in an electronic portfolio system administered by the managing director of the Scholars Program.

Collaborating Successfully

As you begin the transition from undergraduate to graduate program, you are going to encounter a huge shift in how and from whom you will learn the necessary skills to become a successful scientist. Your education will be a much less formal process than in the traditional classroom-based instructional model found in many higher education environments, and consequently it requires high levels of self-direction to achieve the maximum benefit.

The student plays the crucial role of ensuring the collaborative plan is effectively implemented. It might be valuable to map out in advance the "rules of engagement" and to ensure that these rules are accurately communicated to all key stakeholders. How frequently do the mentors think the three of you should communicate via audio or video conferencing? Although you may not need a weekly meeting of this type, it will be critical that all three of you are attentive to the progression of the project and are highly engaged from the start. It may be valuable for you to consult upper year Scholars in the program for suggestions on how to manage bi-laboratory transatlantic collaborations. **DO NOT enter into a project thinking you will be working solo with one mentor for two years after which you will then show up in the other lab to start working for another two years; your efforts must be structured so that they represent an ongoing collaboration.**

Just like any other relationship, it will take some time and energy to make it function optimally. Projects go through successful times and periods of strain, and so do people. *The single most important principle is to maintain open and frequent communication between all members of your collaborative project.* Keep both mentors constantly informed of research progress through emails and conference calls. Be frank and honest about any issues that arise, whether they are directly or tangentially related to your research. Be sensitive to the many time demands on your mentors, but don't be afraid to make it known when you need help. Most students also don't consider in advance the ways in which your mentor relationship will be changing as your project progresses. In a mentorship situation, the student begins relatively unskilled and inexperienced, but by the end of the relationship one should feel that a transition has occurred and that the mentor has become a peer and vice versa. These changes can cause some strain if one or both of

the individuals do not allow the relationship to grow in this way. Nevertheless, this process of growth is essential to your development as an independent scientist.

No matter how committed the mentor, be prepared for her/him not being informed of or overly interested in the administrative aspects of your progression toward your degree. It is vital for you to take responsibility for completing all necessary paperwork and other tasks required by your university and the NIH. In the end, you will make the most efficient use of your time and energy if you keep track of deadlines rather than trying to repair the damage after you have submitted vital documents late or incorrectly. This is a skill that will aid you throughout your scientific career. Life as a scientist always requires care and attention to detail in proposing, documenting, and reporting your work to those who are funding it and are charged with its oversight. The Managing Director, Class Dean, Academic Dean, and Program Directors are always available to help if uncertainties arise.

By contrast, your mentors will be very concerned about important new discoveries and how credit for them is allocated. Explicit guidelines have been formulated and promulgated by the NIH through the office of the Deputy Director for Intramural Research. Your best means of navigation is to make sure your mentors on both sides of the Atlantic are well-informed of your research progress. Remember that your mentors have invested their entire careers in their laboratory groups and therefore have earned certain prerogatives regarding the research that they undertake. The best strategy is to seek advice in advance from both mentors on any issues of public presentation (including talks, presentations, and papers) or apportioning of credit. Try not to assume you can predict how your mentors or peers involved in the project will feel and remain sensitive to the feelings that are expressed. In cases of dispute, you may also consult with the Program Directors or your Class Dean, either privately or openly. Usually, reasonable accommodations can ensure fair credit is given to all who deserve it. Related to scientific credit is the issue of intellectual property, which is taken very seriously by the universities and the NIH. In general, ownership revolves around where the discovery or invention was made. However, it is best to consult your mentors and the technology transfer offices connected to their labs for guidance regarding what disclosures can be made and what forms should be completed to protect your and your mentors' collaborative work. At the time you begin your participation in the partnership program, you will be required to sign a form that indicates you are familiar with and agree to the intellectual property stipulations of the program.

Most successful research environments will offer you access to many individuals who may share with you their expertise regarding techniques and knowledge in your chosen field of study. Strive to find at least one individual in the lab with whom you enjoy interacting on a day-to-day basis to exchange new ideas and experimental plans. These individuals will play a vital role in your development as an independent experimentalist and scientific thinker, and may give you insight into your mentor's state of mind in case of any misunderstandings.

TIMELINE AND BENCHMARKS OF GRADUATE STUDY

Admissions & Orientation Period

February

At the time of the student interviews in February, students will meet with a small number of potential mentors. Students should begin serious consideration of mentors at this time, because after acceptance the window in which to select one's mentor is relatively short. It is generally expected that at the time of the interview, students will have already identified several individuals at NIH, Oxford or Cambridge who may be well suited to serve as mentors. Students will also be asked at this time to state general areas of scientific interest suitable for doctoral work.

March/April

After acceptance into the program, each student must apply to either Oxford or Cambridge using the links and information available in the [New Class Resources](#) page of the website. It is important to submit these applications to Oxford or Cambridge universities as soon as possible so as to have the best chance of being admitted to your first choice of college. Students may apply to both institutions if they are unsure which they plan to attend, but they must be sure to decline their offer from the appropriate university once their mentor choice is finalized. Marshall, Rhodes, Gates and Churchill Scholars should speak with the administrators of their particular scholarship regarding University matriculation. MSTP students should apply the December before they plan to matriculate into the university

Students should consult the Collaborations Database to determine if there are any pre-arranged projects that meet their scientific interests, but they are also encouraged to meet with any faculty whose research appeals to them. Class Deans will be assigned to assist students in developing their projects, and these individuals may also appoint special advisors to suggest specific research opportunities in the student's areas of interest.

May

After the student acceptance, usually by April 15th, the program sends the required paperwork for a U.S. government appointment under a pre-doctoral Intramural Research Training Award (IRTA). This mechanism allows the NIH to pay you, track you, establish an NIH ID and email account for you, and provide you with health insurance and other benefits. If you do not receive a welcome packet by April 15th, please contact the program administrators immediately. Track 1 MD/PhD students will not receive IRTA appointments for orientation the year they are accepted, but may receive them the summer before they begin their PhD research or during their summer rotation at the NIH. It is extremely important that students fill out and return this paperwork promptly. Paperwork

is due June 1st. Students should continue their mentor searches and begin to arrange visits to the NIH and UK laboratories during visit week. Your Class Dean can help you with these arrangements.

June

IRTA paperwork must be completed and submitted to the OxCam Program by June 1st. At the end of June and/or beginning of July, you will visit the NIH for one week and the UK for one week to meet with potential advisors and investigate potential dissertation laboratories and collaborative projects. Students will arrange their travel through the OxCam Program and will be reimbursed for their expenses. **IMPORTANT: DO NOT PURCHASE AIRLINE TICKETS WITHOUT FIRST RECEIVING INSTRUCTION FROM THE OXCAM PROGRAM.**

During the NIH and UK visit weeks, you will meet and interact with other students already in the program and participate in the Scholars' Colloquium, the location of which rotates each year between Oxford, Cambridge, and the NIH. In 2010, it will be held at Cambridge University on June 28th-30th. **Attendance at the Colloquium is mandatory each year for all mentors and Scholars.** During NIH visit week a dinner will be held during which new Scholars are formally inducted into the program. This *Evening of Honors* is hosted by the International Biomedical Research Alliance, a non-profit organization dedicated to promoting the advancement of and excellence in biomedical research. In pursuit of its mission, the Alliance provides philanthropic, scientific and industry resources dedicated to developing the NIH Oxford-Cambridge Scholars Program into a world class training program for emerging leaders in the biomedical sciences. Each student is awarded the medal of the Scholarship during the dinner.

After the NIH and UK visit week you will need to finalize your project and your co-mentors. be asked to choose a project and a pair of co-mentors. In order to comply with visa deadlines, you should make this decision by the end of June if you plan to begin your research in the UK. If you take longer to make this decision, you will have to bring your research at NIH.

July

Mentor selection should be complete at the beginning of July or soon after. As soon as their UK mentors are identified, all students will fill in the paperwork required for foreign travel to the UK and apply to the British Consulate in New York for a General Student Visa for a 4-year visa to attend a UK University. Supporting documents from your UK University and the OxCam Program will need to be attached to your Visa application (see below in the Visa section of the Handbook). **The visa application process should be initiated no later than July 1st** to assure that you will have the documentation necessary to enter the UK as a student in residence for more than six months. Students should consult with the administrators at their chosen University if they have any questions.

August/September

Your pre-IRTA appointment begins at the NIH on August 1st. During the first week on campus, you must participate in mandatory orientation activities to be delivered by the OxCam Program and the GPP. **Please note that your first paycheck will not be deposited in the bank until the end of August.** Upon arrival, your primary objective is to write up an in-depth, 5 page (single spaced) research proposal with the help of your mentors and advisors (see Appendix I). It should contain the specific aims of your research and a brief timeline of when and where the work will be performed. The research proposal must be approved and signed by both Mentors, your Class Dean, and the Program Directors.

The development of the research proposal enables you to establish the background knowledge that will be foundational to the successful initiation of your project. As you are developing the proposal, you will engage in literature reviews, attend lectures, and explore NIH and UK resources (e.g., video conferencing with your UK mentor). You will submit the signed research proposal by the third week in September. **The submission of the proposal is mandatory before you embark on your travel to the UK to begin your work there.** The same deadline applies to students beginning their first research year at the NIH as opposed to Oxford or Cambridge. Note that the specific division of your time between the NIH and the UK, within the 50:50 guideline, as well as where you will start your research, is determined by the science and a joint decision between you and your mentors. (See appendix I for more guidance on writing a research proposal.)

If you and your co-mentors determine that it is important for you to undertake any formal coursework at the NIH or in the UK, arrangements should be made at this time as to how best to pursue this option. It will be useful during your orientation time at the NIH to acquaint yourself with your NIH mentor's Administrative Officer (AO) and, if possible, his/her Laboratory or Branch Chief.

First Year

October

Whether you plan to start at Oxford, Cambridge or NIH, you should begin your PhD research in the **first week of October**. All University fees and tuition will have been prepaid by the NIH. Research begins immediately unless you have made special arrangements to take classes. At this time, your mentors are required to participate in a *mandatory orientation program* designed to ensure they understand the crucial components of the program and their responsibilities and obligations to the Scholars working under their direction. At Cambridge University, you will be assigned an adjunct advisor to turn to in case you encounter any scientific problems in the laboratory. In addition, the Cambridge and Oxford Program Directors, Drs. Ken Smith and Richard Cornall

respectively will be available to deal with any logistical problems you may face while adjusting to the UK.

September

At the end of one year at Cambridge, your co-mentors and advisors will evaluate a 20-page research progress report or transfer report that you write that should summarize what you have accomplished during the year. A copy of this is also submitted to the OxCam Program. This is an important document that will determine whether you can be formally enrolled into the Ph.D. or D.Phil. program. NIH-Oxford students will also need to develop a transfer report, although the process is less formal and the transfer to D.Phil. status can occur anywhere between the end of the first year and the end of the second year.

If you have not submitted your transfer report by the end of the first year, the OxCam Program requires that a formal progress report of about 2 to 5 pages in length be submitted by all students to the scientific counselors and Program Directors by October 1st. This report should take on the format of an NIH research progress report (see Appendix I). It must include preliminary or published findings that demonstrate what you have accomplished. The progress report should also include detailed plans concerning future experiments you wish to conduct. In addition, updated curriculum vitae and contact information and an updated training plan are to be submitted with your yearly progress reports. **NOTE: If you have completed the transfer report by this time, it may be submitted instead of the progress report. However, you must still submitted the updated CV, Training Plan, and contact information.**

Second Year

September

At the end of the second year, the OxCam Program requires that a second formal progress report and training plan following the instructions stated above be submitted by October 1st. Students who complete their Transfer Reports during the second year may submit them in lieu of their Progress Report, but they must still update their contact information, CV and Training Plan.

Third Year

October

Upon arrival, you and the NIH co-mentor must arrange for a formal presentation, i.e. an open seminar to the NIH research community on the work carried out in the UK. This exercise is critical for developing public speaking skills when addressing a scientific audience. The student is also encouraged to make similar presentations at local, national,

and international scientific meetings, laboratory meetings, and departmental/discipline retreats whenever possible. When on the NIH campus, the Scholars *Frontiers in Bioscience* also provides you an opportunity to develop your public speaking skills.

September

At the end of the third year, a new progress report should be submitted by October 1st. Delivered in an RO1 format, this report should again detail research milestones and should include papers if applicable. The report should outline plans for finishing up the thesis work. An updated Training Plan, CV, and contact information should also be submitted simultaneously. In addition, students who have not yet published a first-author paper should begin work on one immediately. While Oxford and Cambridge have no formal requirement for publication in order to be awarded a Ph.D. or D. Phil. degree, the OxCam Program expects that the student will publish at least one first-author paper in a respected peer-reviewed journal in order for the student to be competitive for obtaining a high-quality postdoctoral position in the United States.

Fourth Year

October

When the co-mentors, the University and the OxCam Program concur that the student is ready to graduate, a thesis is written and the student defends it orally (the Viva) in the UK before both an external and an internal examiner who are experts in your field of scientific inquiry. A copy of the thesis is submitted to the University and the NIH and University Program Directors. Although time to complete the thesis varies, it is expected that most students will complete it within four years. Approximately one year or more before you expect to complete your doctorate, you should begin planning and applying for postdoctoral positions. The most sought after labs often make commitments a year or more in advance so that the earlier you apply, the better your chance of finding an open spot in the lab of your choice. You may also need to apply for postdoctoral fellowship support, which is best done well in advance. Having publications, especially those on which you are the first author, enhances your chance of securing the postdoctoral opportunities of greatest interest to you. For medical students, you should plan your transition back to medical school a year or so ahead of time. It will be important to have sufficient lead time if you have to arrange a schedule of medical school rotations or other training activities to minimize loss of time in finishing your medical degree and applying for a residency.

LOGISTICS

Funding and NIH Appointments

Students in the UK programs (except Marshall, Churchill, Rhodes, Gates and other scholarship students) are supported by the NIH for the duration of their time in the program. Tuition and fees are paid centrally by the program through a collection from each of the participating Institutes. The student's NIH mentor funds the student's stipend, medical benefits, and travel allowance for all four years of the program. Each student is appointed to NIH through a predoctoral Intramural Research Training Award (IRTA). For Rhodes, Marshall, Churchill and Gates scholarship students, the scholarship pays tuition and stipend for the length of the scholarship. The student should receive a Special Volunteer appointment in their NIH lab, and the NIH should fund health insurance and travel. When scholarship funding is exhausted, students are given pre-doctoral IRTA appointments by their labs and receive their stipend payments from their NIH mentors. In the case of one-year scholarships (i.e. Churchill), the NIH will also pay the second half of the tuition. Students who receive other scholarships should contact the OxCam Managing Director so that an arrangement can be established by which they may take advantage of this extra source of funding.

The paperwork for receiving the IRTA award is sent to the student after accepting an offer of admission and must be returned by its due date to assure proper processing in time for an August 1st start date at the NIH. To complete the paperwork, you must be able to provide the following:

- Proof of citizenship
- A U.S. bank checking account to which your stipend can be transferred
- Completed form for a medical examination within the last year with the immunization record included
- A Curriculum Vitae – a standard format will be sent with the packet
- Statement of research goals at the NIH (1/2 page)
- A final transcript from your undergraduate university indicating you have received your Bachelor degree with date of degree award

When you submit your completed IRTA packet, you must either choose enrollment in the NIH medical insurance plan (Blue Cross Blue Shield) or indicate that you are retaining your own insurance or are covered under your parents' policy. **A student cannot participate in the OxCam program without proof of medical insurance.** For the purposes of the IRTA award packet, the program will use the letters of recommendation you furnished when you initially applied to the program.

Student Visas

To travel to the UK and establish residency while doing research at the University, you must obtain a "General Student Visa" because your stay is more than 6 months. U.S. citizens with a General Student Visa do not need to apply for a UK Residence Permit.

The General Student Visa will be in the form of a vignette (sticker) placed in a passport at a visa issuing post. In the U.S., the visa-issuing posts are located at the British Consulates General in Chicago, Los Angeles and New York. Visit <http://www.ukvisas.gov.uk/> for contact details. The application process requires that you provide personal details, including passport details, financial details and information about your course of study in the UK. If you have any questions, please contact the administrators at your chosen university.

Once the Entry Clearance Visa is granted, you will be able to enter and leave the UK for the duration of the Visa. Note that there is a security training requirement in place for HHS workers, including students who will spend greater than 6 months abroad. Free security training for students is provided at the NIH *once per year* in August.

The Entry Clearance Visa is only valid in the UK. U.S. students wishing to travel to other European countries will still be subject to those countries' immigration rules. Re-entering the UK following a visit abroad will not be affected. All costs associated with obtaining the Visa are the responsibility of the student.

New students should begin the visa application process no later than July 1st of the year that they matriculate. Track 1 MD/PhD students should apply in December of their second year of medical school.

Travel and Attendance at Scientific Meetings

Once a student has formally started in the UK program (August 1), all travel at all times must be arranged via the **NIH travel orders mechanism**. Travel arrangements and issuance of travel orders are carried out by the Administrative Officer (AO) of the student's NIH laboratory advisor/mentor. Ask your NIH mentor to introduce you to this person. Generally, travel orders should be submitted as far in advance as possible. See the following specific guidelines:

- For **national or international research meetings**, you should begin travel planning 3-6 months in advance as lower registration fees are often available then and meeting accommodations can fill up quickly.
- For **domestic travel**, the laboratory AO must be notified **at least one month in advance** of the days and destinations of necessary scientific travel in order for the AO to be able to issue the airline tickets, lodging, etc. and to make related arrangements so the student can leave and return on the desired date. Students paying for their own travel arrangements *will not be reimbursed for expenses*. **Making arrangements via the Internet is permissible but must be booked through the government travel vendor, OMEGA, and requires a personal credit card number from the traveler. A travel order must be prepared and approved by AO the same day of booking.**

- For **foreign travel**, the laboratory AO must be notified at least **6-7 weeks** in advance of the desired travel date to assure tickets will be ready when needed. *Travel arrangements paid for by students will not be reimbursed.*
- Students in the UK programs can be supported for travel and lodging for scientific meetings and travel to and from the UK University and NIH (Bethesda) if the travel is related to their dissertation research. *Travel funds cannot be used for visits home or personal trips.

Vacations

Per NIH guidelines, trainees are generally granted two weeks of vacation per year, if their mentors agree. Trainees are to notify their mentor of the planned time of vacation and its duration.

IMPORTANT PROGRAM CONTACTS

NIH PROGRAM DIRECTORS	OXFORD UNIVERSITY	CAMBRIDGE UNIVERISTY
<p>DR. MICHAEL LENARDO, M.D. OXCAM PROGRAM DIRECTOR LENARDO@NIH.GOV</p> <p>DR. RICHARD SIEGEL, MD, PH.D. MD/PHD PROGRAM DIRECTOR SIEGELR@NIAMS.NIH.GOV</p> <p>BRIDGET LAMPERT, M.S. OXCAM/MD/PHD MANAGING DIRECTOR LAMPERTB@NIAID.NIH.GOV 301.496.6083 (OFFICE) 301.272-5174 (CELL)</p> <p>TRINA MEGGINSON PROGRAM ASSOCIATE MEGGINSONT@NIAID.NIH.GOV 301.435.1513</p> <p>RACHEL SCHULMAN PROGRAM ASSISTANT SCHULMANR@NIAID.NIH.GOV 301.451.3806</p>	<p>DR. RICHARD CORNALL DIRECTOR, OXFORD PROGRAM RICHARD.CORNALL@NDM.OX.AC.UK 44-1865-221784</p> <p>Ms. SARAH NOUJAIM GRADUATE STUDIES OFFICER SARAH.NOUJAIM@NDM.OX.AC.UK 44-1865-857622</p>	<p>DR. KENNETH SMITH DIRECTOR, CAMBRIDGE PROGRAM KGCS2@CAM.AC.UK 44-1223-762645</p> <p>DR. LAURIE FRIDAY SECRETARY OF THE BOARD OF GRADUATE STUDIES LEF10@ADMIN.CAM.AC.UK 44-1223-761569</p>

APPENDIX I: THE RESEARCH PROPOSAL

WRITING A RESEARCH PROPOSAL AND PROGRESS REPORTS

Why is it required?

Contrary to popular belief, the research proposal is not just another hurdle put in the path of graduate students. It actually serves many purposes, all of which help to ensure the timely completion of your degree and to aid in your professional development as a scientist. Just a few of the functions of the dissertation proposal include:

- Focusing your attention on the full course of the research project, not just the next experiment
- Ensuring you complete a comprehensive review of the literature to make sure the research question has not already been answered and that you are familiar with all relevant work already done in the field
- Establishing agreement with mentors on the scope of the dissertation
- Beginning development of technical writing skills
- Beginning development of grant writing skills

Without question, the most ambiguous element of the Ph.D. is defining when the dissertation research has reached the required “critical mass” i.e. one can provide evidence of sufficient quality and quantity of research to meet the standards of the degree. One of the critical aspects of the dissertation proposal is to propose and achieve agreement on the scope of the research to be accomplished. Not uncommonly, the ultimate dissertation may move away from what is proposed due to insurmountable problems, unexpected results, new findings published in the literature, etc. However, it is essential that all principal parties involved in a student’s research achieve initial agreement on the scope of the dissertation.

The research proposal also pushes one to really think about what is known in the field, how one will contribute new information, and what logical steps must be taken to accomplish one’s research goals. This kind of planning helps one avoid paths that lead to dead ends. In other words, students are strongly advised to incorporate alternative strategies towards which specific outcomes will guide them as the research progresses. This is a skill that must be developed if one hopes to become a successful scientist. After awhile, this way of thinking will become second nature as you design your research, but initially many new researchers may not be aware of their need to grow in this way.

Finally, by developing the research proposal you will hone your technical writing and grant writing skills. The proposal format is consistent with that of most postdoctoral fellowship proposals and individual research grants. Thus, the student should recognize that development of the research proposal is not a sterile exercise but rather one which will help you develop skills you may apply throughout the entire span of your research career.

When and how is it submitted?

The initial research proposal must be submitted to the NIH Oxford/Cambridge Managing Director by October 1st of your first year in the program. This individual will ensure the proposal is disseminated to others who have a need to review it. During the Orientation Week at NIH, program personnel will provide guidance on how to go about constructing the dissertation proposal. You will then work with your NIH and UK mentors during August and September to create an initial research plan. It is appropriate to work with your mentors to come to general agreement on what you are going to propose, but the proposal should clearly represent your work. Unlike a manuscript being submitted for external peer review where everyone involved has major input to its writing, you must serve as the author of the research proposal. You may ask your mentors to review drafts of the proposal for general comments, but do not expect them to provide detailed editing such as occurs with manuscripts. The final proposal must be signed by both mentors (signatures on faxed or e-mail copies are acceptable) to ensure that they are in agreement with you and each other in terms of what you have proposed to be the focus of your research. The scientific counselors and project directors will also read and approve the proposals. Keep in mind that research does not always (ever?) proceed as planned, so you should view the proposal as an initial plan that may require revisions as your work progresses. You should not view yourself as locked in to every detail of what you initially propose if your results require that you modify the plan.

Since you will have only two months to prepare your proposal, it will not reflect the magnitude of your research or include the detail of a proposal written by someone who had done preliminary studies or who has developed a research project over the first year or two of graduate work. The proposal length should be not fewer than five pages and not more than ten, excluding tables, figures and references. The idea is to keep it clear and concise as a voluminous document would serve no good purpose in the early stage of your research.

What is the format of the research proposal?

Different graduate programs may have slightly different requirements but the basic format is fairly standardized in that it is consistent with that of NIH extramural research proposals. This format, referred to as the **PHS 398**, is by far the most commonly used in all of biomedical research, so it should be the one you learn and utilize in your practice. The dissertation research proposal will almost always be shorter and more preliminary than a typical competitive research application, but the format and structure are identical. **The electronic forms and detailed guidelines can be found via the web link provided below.** *Focus your attention on the Research Plan beginning on page 15.*

<http://grants1.nih.gov/grants/funding/phs398/phs398.html>

The goal of this short introduction is not to provide a thorough course on proposal writing. Whole books and lengthy workshops cover that topic, as will the annual GPP workshop on

dissertation proposal writing. Rather, the following section synthesizes key sections of the proposal and their purposes. For simplicity, essential points are displayed in bullet fashion. The **numbers in parentheses** refer to the approximate number of pages devoted to each section in a 25 page NIH proposal. The **bold numbers** refer to the approximate number of pages for your 5-10 page version.

Title (56 Characters including spaces – absolute maximum)

- Actually quite important - searched and indexed
- Creates an initial impression

Abstract (0.5 pages, **0.5 pages**)

- Can be thought of as a mini-proposal – easiest to build with the same components as the proposal
- Written for a more general audience
- First impressions are important - creates or deflates interest
- Written last but NOT at the last minute
- In real life, one of the few pieces that everyone reads, including the public
- MUST explicitly follow required length guidelines

Hypothesis and Specific Aims (1 page, **1 page**)

- State the explicit hypotheses you plan to test and how you plan to test them
- A bullet point approach is very effective to articulate exactly what you plan to do – it may include a small elaboration
- This section creates a critical real first impression
- Often includes a preamble which serves as a mini-introduction - context
- Second section that everyone will read - often the “make or break” section for proposals that go through a grant review process
- Establishes what a reader perceives as your thought patterns
- Success of your work will be measured against whether you accomplish the aims
- In reality, aims move and evolve once the research is under way
- Also plays the role of "tell them what you are going to tell them"
- NIH grants usually require the identification of 3-5 total Aims – 2-4 typical for a dissertation
- Includes but is distinct from hypotheses being tested

Background and Significance (2-3 pages, **2-3 pages**)

- Sets up the "story" you want the reader to read - lead them toward your research vision
- Establishes you as an authority/ i.e. one who is well-read on the topic
- Shows that you are cognizant of the most important work already published on the topic
- Distills from the universe of knowledge on the topic your specific aims

(analogous to a funnel)

- Establishes for the reader the importance of the work - "ho hum" vs. "I can't wait to find out the results"
- Helps the reader understand the logical next steps i.e. your Specific Aims
- Focuses more on what others have done but also allows you to weave in or build on your contributions or unique perspectives

Preliminary Studies (variable depending on when it is written - 1-8 pages, **≤1 page**)

- Demonstrates that you are capable of deploying the proposed research methods
- Shows the quality and quantity of data already acquired
- Continues to build the case for the feasibility and logic of your proposal
- Incorporates as needed relevant small tables and figures (these count toward the page limit)
- Larger data sections can be added as appendices

Research Design and Methods (the largest section - generally 50% or more of the total, **2-4 pages**)

- Explains the methodologies to be used to accomplish the aims
- Two separate areas must be covered; these may be interwoven or presented as distinct sections
 - conceptual and experimental design
 - details of the methods
- Should be tied absolutely and unmistakably to Specific Aims
- Design should include branch points, different routes depending on what is seen, and must avoid fatal dead ends where Aims depend on success of previous Aims
- Should acknowledge potential barriers and pitfalls and how you plan to get around them
- If you are testing alternative hypotheses, make it very clear how the experiments will differentiate between them

References

- Choose carefully - more is not necessarily better
- Important to have a balance between a few of historical importance but most current (i.e. "right up to the minute" - literally if possible) show you are on top of the latest developments in the field

Annual Progress Reports

Annual progress reports are required as an aid for monitoring your progress toward degree completion and to keep your mentors, advisors, and program directors informed of any unexpected changes in direction and/or scope of the proposed research. As with the Research Proposal, the Progress Report must follow the standard format expected of NIH grants. The instructions for completing the Progress Report can be found at:

<http://grants2.nih.gov/grants/funding/2590/2590.htm>

Don't worry about the mechanical pages like the Face Page although it is never too early to start learning the details of how extramural grants are structured. **Focus your attention to section 6 - Progress Report Summary.** Follow the guidelines carefully. By following these guidelines, you will begin to **learn the critical skill of compact writing**. Just as it is often harder to give a 10 minute talk than a 30 minute talk, learning to write briefly while capturing all of the most important points is a skill/art you must master. **NOTE: For real NIH grants, the limit is 2 pages and must be respected. Try to keep to this length for your progress reports, but in all cases, the report should be five pages or less. If your research has taken a significantly different direction than originally proposed, then the rationale for this change should be a major focus of the Progress Report.** Listed below are the instructions provided for this section in the PHS 2590 forms.

Section 6 – Progress Report Summary from PHS 2590

(FORM PAGE 5, [PDF FORMAT](#))

Well-planned Progress Reports can be of great value by providing records of accomplishments, which serve as a basis for continued support of the project. Furthermore, Progress Reports provide information to awarding component staff that is essential in the assessment of changes in scope or research objectives (as defined in the [NIH Grants Policy Statement](#)) from those actually funded. They are also an important information source for the awarding component staff in preparing annual reports, in planning programs, and in communicating scientific accomplishments to the public and to Congress.

The Progress Report should be a brief presentation of the accomplishments on the research project during the reporting period, in language understandable to a biomedical scientist who may not be a specialist in the project's research field. The style used in *Scientific American* articles would be appropriate. Abbreviations and language that may not be known to the broader scientific community should be avoided unless clearly defined.

When submitting Progress Reports for program project grants, center grants, education grants, or other large multicomponent grants, contact the program official in the awarding component for specific instructions. The entire Progress Report for regular projects, exclusive of the list of publications and the "Inclusion Enrollment Report," **should not exceed** two pages. The report should follow the outline and numbering system shown below. Continuation pages may be used as necessary.

a. Specific Aims

The aims, **as actually funded**, may differ in scope from those stated in the original, competing application, because of Scientific Review Group (SRG) and Council recommendations and/or budgetary modifications made by the awarding component. If the aims have not been modified, state this. If they have been modified, give the revised aims and the reason for the modification.

b. Studies and Results

Describe the studies directed toward specific aims during the current budget year and the results obtained. Include negative results. If technical problems were encountered in carrying out this project, describe how your approach was modified.

c. Significance

Emphasize the significance of the findings to the scientific field and their potential impact on health.

d. Plans

Summarize plans to address the Specific Aims during the next year of support. Include any important modifications to the original plans. Address any changes involving research using human subjects and/or vertebrate animals.

Complete Items A and B on Form Page 5 if the research involves Human Subjects or Vertebrate Animals. If "Change" is checked, provide the information below. Although no specific page limitation applies to the information on Human Subjects or Vertebrate Animals, be succinct.

NOTE – it is important to include comments on any changes in human or animal protocols as this is a good checkpoint to make sure you don't need to seek approval of revised research plans from an IRB or IACUC.

The Progress Report helps you achieve the following **two primary goals**:

GOAL 1: Step back and take stock of the rate at which you are progressing toward meeting your original Aims and testing your initial Hypotheses. After you have synthesized your progress into the two page summary, ask yourself the following questions:

- Am I making adequate progress to be on course for completing my degree in the time available? If not, why not?
- Have I kept a narrow focus on the original plan, taken on additional projects that presented themselves without jeopardizing the initial plan, or gotten too distracted into different projects? One of the challenges all scientists face is establishing balance between focus on a plan and taking on new projects.
- Based on where I am today, how long will it take me to realistically accomplish my initial aims? Is the time available or has the project become too difficult to complete in the time remaining?
- Will my data, either now or if further developed in a reasonable time frame, yield a significant contribution to the literature on which I will be first author? If you determine that the answer to this question is no, then you and your mentors must seriously reevaluate the aims and rate of progress of the project.

GOAL 2: If the Aims and/or Hypotheses have changed, how will it affect your dissertation? Your mentors will provide the most important guidance in this area and both

must agree on any significant changes in scope or Aims. Ask yourself the following questions:

- Will the complete “story” that my dissertation will describe satisfy the requirements for a dissertation?
- Have I communicated changes in Aims and hypotheses to both of my mentors and are they in agreement with these changes?
- Am I confident that I can defend the new dissertation to an external examiner and the full audience at my defense?

You should be asking these questions throughout the year, but the Progress Report will provide a reason to systematically focus on them at least annually. All researchers must periodically and critically assess how far their research has come and where it is going, so these Progress Reports introduce you to the necessary rigor and assessment associated with high quality scientific practice.

APPENDIX II: PUBLICATIONS AND INTELLECTUAL PROPERTY

Publications

All manuscripts published by NIH intramural researchers must go through a simple clearance procedure that varies in detail depending on the Institute. Consult your NIH mentor for information about this process.

Intellectual Property

The NIH and the universities have come to an agreement in which intellectual property generated by Scholars will be jointly owned. All Scholars are required to notify both institutions—the NIH and the University—of any intellectual property of potential importance (e.g. patents, licenses, commercial collaborations, etc.) and public disclosure of discoveries that may have commercial implications. NIH has a very well-developed technology transfer apparatus designed to fulfill a strong commitment to promoting new inventions for the public health and welfare.

APPENDIX III: THE NATIONAL INSTITUTES OF HEALTH

Established in 1887 as a one-room Laboratory of Hygiene, the National Institutes of Health (NIH) is an agency of the Department of Health and Human Services and has grown into one of the world's foremost medical research centers. Over the years, the mission of the NIH evolved and is now clearly focused on developing new knowledge that will lead to better health for all. This mission is carried out by scientists and others who:

- Conduct research in the NIH's many laboratories
- Provide support for research conducted by scientists in universities, medical schools, hospitals, and other research institutions throughout the country and abroad
- Train research investigators
- Foster the communication of medical information

NIH is primarily located in Bethesda, Maryland with satellite campuses in Maryland, North Carolina, Montana, and Arizona. The Bethesda campus houses 75 buildings on 322 acres. Presently, the NIH includes 27 extramural and intramural Institutes' and Centers' laboratories whose research areas focus on diseases, organ systems or techniques with each comprised of an extramural and intramural component, unless otherwise noted.

Institutes and Centers with Extramural and Intramural Research Support

- National Cancer Institute (NCI) - Established in 1937
- National Eye Institute (NEI) - Est. 1968
- National Heart, Lung, and Blood Institute (NHLBI) - Est. 1948
- National Human Genome Research Institute (NHGRI) - Est. 1989
- National Institute on Aging (NIA) - Est. 1974
- National Institute on Alcohol Abuse and Alcoholism (NIAAA) - Est. 1970
- National Institute of Allergy and Infectious Diseases (NIAID) - Est. 1948
- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) - Est. 1986
- National Institute of Child Health and Human Development (NICHD) - Est. 1962
- National Institute on Deafness and Other Communication Disorders (NIDCD) - Est. 1988
- National Institute of Dental and Craniofacial Research (NIDCR) - Est. 1948
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) - Est. 1948
- National Institute on Drug Abuse (NIDA) - Est. 1973
- National Institute of Environmental Health Sciences (NIEHS) - Est. 1969
- National Institute of Mental Health (NIMH) - Est. 1949
- National Institute of Neurological Disorders and Stroke (NINDS) - Est. 1950
- National Institute of Nursing Research (NINR) - Est. 1986
- Center for Information Technology (CIT) - Established in 1964
- John E. Fogarty International Center (FIC) - Est. 1968
- National Center for Complementary and Alternative Medicine (NCCAM) - Est. 1992
- Warren Grant Magnuson Clinical Center (CC) - Est. 1953

Institutes and Center with Extramural Research Support

- National Institute of Biomedical Imaging and Bioengineering (NIBIB) - Est. 2000
- National Institute of General Medical Sciences (NIGMS) - Est. 1962
- National Library of Medicine (NLM) - Est. 1956
- Center for Scientific Review (CSR) - Est. 1946
- National Center on Minority Health and Health Disparities (NCMHD) - Est. 1993
- National Center for Research Resources (NCRR) - Est. 1990

The NIH receives a budget annually from the Department of Health and Human Services, via Congress. Over the past several fiscal years, the NIH budget has averaged \$27 billion dollars. The annual budget is disseminated in support of research grants (71%), intramural research (10%), research & development (7%), research management & support (3%), research training (3%), and all others (6%); representing a 80:20 split between extramural and intramural research support.

The NIH Intramural laboratories support researchers at various education levels: post-baccalaureate (230 trainees), medical students (90 trainees), graduate students (300 trainees), post-doctorate & clinical fellows (3300 trainees), tenure-track investigators (290

trainees), and ~920 senior investigators. There are several training programs available, based on education level:

Summer Students - open to high school, college, graduate and medical students

- Summer Internship Program
- Summer Research Fellowship Program
- Undergraduate Scholarship Program

Post-Baccalaureate Education

- Post-Baccalaureate IRTA
- Technical IRTA
- NIH Academy

Graduate Education

- Graduate Partnerships Program (<http://gpp.nih.gov>)
- Year-Off IRTA

Post-Doctoral Education

- IRTA
- Visiting Fellow

The trainee and investigator populations support ~2500 intramural research projects and 90 scientific interest groups representing scientific interests in the following areas:

- Biochemistry
- Bioengineering
- Bioinformatics
- Biostatistics
- Biophysics
- Cell biology
- Chemistry
- Computing
- Developmental biology
- Environmental biology
- Epidemiology
- Genetics
- Histology/pathology
- Imaging
- Immunology
- Microbiology/virology
- Molecular biology
- Pharmacology
- Physiology
- Proteomics
- Structural biology
- Toxicology

**APPENDIX IV: CAMBRIDGE UNIVERSITY GUIDELINES FOR
SUBMITTING YOUR THESIS FOR THE PH.D., M.Sc. AND M. Litt.
DEGREES**



**UNIVERSITY OF
CAMBRIDGE**

Board of Graduate Studies

**Guide to Graduate Students including changes to take effect with respect to
theses submitted *after 1 January 2003***

A Requirements for dissertations

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A. Requirements for dissertations

1. What the Degrees represent

Ph.D., M.Litt. and M.Sc. degrees are not awarded in any particular subject, and the certificate makes no mention of your subject area. The M.Litt. and M.Sc. are, however, generally reserved for the Arts, Humanities and Social Sciences on one hand and the Sciences and Technology on the other. Research Degrees are awarded subject to the successful examination of a dissertation in two stages. These are usually: **scrutiny** by two examiners and an **oral examination**.

Ph.D.: before recommending the award of the Ph.D. Degree, the Examiners must satisfy themselves that the dissertation is:

- clearly written;
- takes due account of previously published work on the subject;
- represents a significant contribution to learning, for example through the discovery of new knowledge, the connection of previously unrelated facts, the development of new theory, or the revision of older views.

Examiners are asked to bear in mind that the research topic is approved in the light of what it is reasonable to expect a student to complete within **three years full-time (5 years part-time)** research. The limitations implied by this advice are intended to apply to the *scale and scope* of the work presented in the dissertation but *not to its quality*.

M.Sc. and M.Litt.: before recommending the award of the M.Sc. or M.Litt. Degree the Examiners must satisfy themselves that the dissertation is:

- clearly written;
- takes due account of previously published work on the subject;
- represents a useful contribution to learning.

Examiners are asked to bear in mind that the research topic is approved in the light of what it is reasonable to expect a student to complete within **two years full-time (3.5 years part-time)** research.

2. What is a thesis?

Your thesis must be a connected account of your research written by yourself.

Published papers

Your thesis must *not* simply consist of a collection of unconnected or unrelated papers published or otherwise. However, it *may include* published or publishable work *provided* it is part of a connected argument and is uniform in presentation and format with the remainder of the dissertation. It may also include Appendices which are relevant to the material contained in the dissertation but do not form part of the connected argument.

Other written material

You may also submit with your dissertation other *unconnected* or *unrelated* work which you have **published**; such work may, at the discretion of the Examiners, be taken into consideration.

Other materials

If you wish to include in an Appendix an audio or videotape, a film, computer programs or a CD, **please write to the Secretary of the Board of Graduate Studies *before* submitting your thesis.** The Board of Graduate Studies may, on the recommendation of your Degree Committee, allow you to do this *provided* the material is presented either in slip envelopes within the binding of the dissertation or, for more bulky items, gathered into a supplementary volume of similar format to the bound dissertation. Nothing should be attached to the *outside* of the cover of the dissertation.

Please note that the inclusion of a CD does not provide a means of escaping the constraints of the word limits set out in section C2.

Language

Your dissertation, apart from quotations and recognised technical formulae, must be written in **English**.

3. Originality of your thesis

When submitting your thesis, you will be required to state the sources from which your information is derived, the extent to which you have availed yourself of the *work of others*, and the portions of the dissertation which you claim as your own original work. If the dissertation is almost **entirely your own work**, the following statement should be included in the preface:

'This dissertation is my own work and contains nothing which is the outcome of work done in collaboration with others, except as specified in the text and Acknowledgements'.

Collaborative work

The Board of Graduate Studies recognises that research degrees are frequently now carried out in groups and, in almost all subjects, you are likely to have availed yourself of the help of others to some extent. If you have done collaborative work during the course of your research, you should consult your supervisor to decide whether you need to write to the Board to obtain permission to include such work in your thesis.

If you are granted permission to include collaborative work, you must **indicate clearly** which portions of the thesis describe **work done by others or in collaboration with others**, and give the names of those persons with whom you have collaborated and the extent to which you have availed yourself of their assistance. You must also send to the Board with your thesis a **statement from your Supervisor** attesting to the contributions you made to the investigation. If you did not get permission in advance, please ask your supervisor to write **now** to support your case for including collaborative work.

Work submitted for other qualifications

You are also required to declare that the dissertation submitted is not substantially the same as any that you may have submitted for a degree or diploma or other qualification at any other University and to state what part, if any, has already been, or is concurrently being, submitted for any degree, diploma, or other qualification. Such a declaration, signed by you, must accompany or be incorporated in your thesis; forms for this declaration may be obtained from the office of the Board of Graduate Studies.

Circumstances in which you might include some work submitted for another Degree

The Board of Graduate Studies does not permit the inclusion of the whole or the major part of the text of the previous thesis in the Ph.D., M.Sc., or M.Litt. Degree thesis. It does, however, recognise that further work often develops from work undertaken previously and that certain candidates may wish to include some parts (including tables, diagrams etc.) of their previous work. If you have previously been approved for the M.Phil. Degree, M.St. Degree, a research Diploma, or Certificate of Postgraduate Study *and been allowed to count up to three terms towards the requirements* for the Ph.D., M.Sc., or M.Litt. Degree, and if you wish to include suitable elements of this work, it must be clearly identified as such and must form a connected part of the argument of your Ph.D., M.Sc., or M.Litt. Degree thesis.

4. Good research practice

The University has a published policy on good research practice. You should familiarise yourself with this at http://www.rsd.cam.ac.uk/research/Good_Practice.aspx . Please note that the University will deal very severely with detected cases of plagiarism or fraud:

Plagiarism can be defined, in general terms, as presenting the ideas or the work of others *without acknowledgement and passing them off as your own*. This applies to all types of work, whether published or not, regardless of medium.

Fraud can be defined as the use of *deception to obtain an unjust advantage or to injure the rights or interests of another*; for example, the forgery of documents, or the fabrication of data.

5. Intellectual Property Rights

Unlike most universities, the University of Cambridge recognises the right of graduate students to own Intellectual Property (IP) that they have generated during the course of their studies in the first instance. However, in some instances (see the examples listed below) a student will be required to assign his or her IP to the University or another organisation. Normally when this is the case, the student will be recognised and rewarded for his or her contribution in the development of the IP in accordance with University policy.

- If you are funded by a sponsor the University may enter into a contract with the sponsor which governs your research. These contracts are negotiated by the Research Services Division (<http://www.rsd.cam.ac.uk/>) of the University and may require you to assign your IP to the

University;

- Your supervisor may have research funding from external sponsors with terms and conditions which require you to assign your IP to the University;
- If the IP generated in the course of your study involves significant University resources such as input from your supervisor or other members of staff, etc. and shared inventions arise, the University may require you to assign your IP to the University;
- *If you are based in an “embedded” or independent laboratory (‘Non-University Institution’), special IPR conditions apply (for example the MRC Laboratory for Molecular Biology, Sanger Centre or the Babraham Institute);*
- If you are an employee of an organisation either full- or part-time, your *employer* may have certain rights to IP generated during the course of your studies. You should check your contract of employment to verify this. (If you are an employee of the University of Cambridge, the arrangements will be set out in your contract).
- *Note from the NIH – As trainees of NIH, students are required to adhere to the NIH/pre-IRTA provisions of the Intellectual Property statement of the NIH.*

If you require further information on your Intellectual Property rights please contact your supervisor, who may draw on the expertise of the Research Services Division.

Copyright of your thesis

Under the Copyright, Designs and Patents Act, 1988, ownership of the copyright of unpublished dissertations and theses and their summaries rests with the author for the duration of his or her lifetime and a given number of years thereafter, unless he or she specifically transfers it to another person.

When you submit your dissertation for examination, the Board's staff will ask you to sign a statement acknowledging your ownership of copyright in the dissertation and asserting your right to be identified as the author of the dissertation.

N.B. If you are sponsored by a firm or agency, a formal agreement may have been entered into concerning access to your work and results; your supervisor should be able to advise you and should draw on the expertise of the University's Research Services Division in doing so.

Access to your thesis

The University requires that each thesis approved for the Ph.D., M.Sc., M.Litt., together with its summary, shall be available for consultation in the University Library and that photocopies of them shall be made available by the Library to those who wish to consult them elsewhere. To protect your interests, the staff of the University Library, before allowing a thesis and summary to be consulted, either in the original or in a photocopy, require each person wishing to consult them to sign a **declaration** that he or she *recognises that the copyright of the dissertation, or thesis, and summary belongs to their author, and that, in accordance with the Law of Copyright, the thesis or a substantial part of it may not be copied without the author's written consent.* In addition, the thesis and

summary themselves, and any photocopy supplied by the Library, will contain a prominent notice drawing attention to the same points.

The Board may make summaries available for copying and publication, including publication by ASLIB in their *Index to Theses*. The University Library is also authorised to make available copies of theses for those wishing to consult them elsewhere, including microfilming for the British Library Supply Centres *inter-library loan service*. Your thesis will be considered to be in the public domain, unless you have been granted restricted access (see below), as soon as it has been catalogued by the University Library.

Restricted access

If you have special reasons for not wishing your thesis and summary to be generally available for consultation you must apply in writing to the Secretary of the Board for access to be **restricted**. *You should do this when you submit your thesis for examination.*

The Board is not obliged to approve an application for restriction unless you have a contract with a sponsor that specifies restriction. Other reasons that are generally considered as valid might be that publication would cause you or third parties mentioned in the text to be open to legal challenge or racial, ethnic, political or other persecution. Limiting the scope for competition from other scholars to publish on your topic is not generally recognised to be a valid reason.

If you have signed a confidentiality agreement with a sponsor regarding the results of your research, you should ask your supervisor to check whether it will be necessary to ask your Examiners to sign a confidentiality agreement regarding the contents of your thesis for the period of the examination and for any period thereafter for which restricted access may be granted. If so, the Degree Committee office will arrange for this to be done.

If an application for restricted access is approved, it usually covers a **limited period only** (typically up to two years from the deposition of the thesis in the Library); the thesis and summary would then become generally available unless you or your supervisor apply to the Board for the period of restriction to be extended and the Board has approved the application *prior to the expiry date*.

N.B. If your Degree Committee requires a second copy of the thesis to be retained in the *Department Library*, you should ask your Department librarian about restriction of access.

B. About three months before submission

The Board will write to you at the appropriate time to tell you what to do.

1. Submission date

- You *must not* submit your dissertation before the first day of your 9th full-time (15th part-time)

term for the Ph.D., or 6th full-time (10th part-time) term for the M.Sc. or M.Litt., *unless* you have been granted exemption from up to 3 full-time (5 part-time) terms of research.

- You *are expected* to submit by the first day of the 11th full-time (17th part-time) term (e.g. 4th January for a full-time October starter) unless you have been granted permission to defer submission. This deadline is the same for all three Degrees, but most M.Sc./M.Litt. candidates should aim to submit around the 7th full-time (12th part-time) term.

2. Deferring submission

If you are not ready to submit within 21 days of your deadline, you should apply for an extension. The Board will send you the relevant form. This requires a written endorsement from your supervisor. When seeking an extension, **be realistic about the date of your submission.** *There is heavy pressure on Departments for all PhDs to be submitted within 4 full-time (7 part-time) years of starting.* **Your Degree Committee may not agree to grant an extension beyond 4 (7) years,** except in cases of illness (supported by a medical letter) or other grave cause.

3. Applying for appointment of Examiners

You should apply for the appointment of Examiners **at least two months in advance of submitting your dissertation.** The appointment of Examiners may take some time, particularly if your application for appointment is submitted during a Vacation. The application should be made on a form available from the office of the Board of Graduate Studies as soon as a firm and **realistic** submission date can be given.

In your application you should:

- propose the exact **title** of your dissertation (see 3 below) and;
- **the date** upon which you propose to submit it, and;
- enclose with your application three copies of a short summary of the contents of the dissertation (see 5 below).

You will be expected to adhere to the date you propose for the submission of the thesis.

If you **expect to leave the country** soon after submission you must bear in mind that you will be expected to **attend a viva voce (oral) examination in this country.** You should state on the application form for the appointment of Examiners the proposed date of your departure, allowing **at least eight weeks** between the date of the submission and the proposed date of departure.

The Degree Committee will do its best to arrange your oral examination as quickly as possible, but please bear in mind that it is sometimes difficult to find a suitable examiner, or the most suitable person may not be free to act within a tight timetable.

4. Approval of the Title

The subject of your research is provisionally approved at the time of your admission and confirmed in more specific terms when you are registered as a candidate for a research degree.

Before your thesis is finally typed and bound, when applying for Examiners to be appointed, you should propose the **precise** title of your thesis. Your supervisor should indicate his or her support for the title; this is then submitted to your Degree Committee and to the Board for approval.

5. The Summary

The summary must be written in English and should consist of a piece of connected prose forming an abstract of the dissertation and be about 300 words in length. If at all possible, it should be accommodated on **one side** of A4 sized paper. It should bear your **name** and the **exact title of your dissertation** at the head of the page.

If you submit a soft-bound thesis in the first instance, you will need, when submitting the final, hard-bound copy of your thesis, to provide a further, loose-leaf copy of this summary, identical to that bound into the final version, for the University Library file.

The summary will be considered by the Examiners and, if the dissertation is approved, the summary will normally be deposited in the University Library for consultation and inter-library loan.

C. Format of the Thesis

1. Word limits and stylistic conventions: Requirements of the Degree Committees

You should write as concisely as is consistent with clear and adequate exposition. The following Degree Committees have prescribed the limits of length or stylistic requirements given below. If you have been working under any one of these Degree Committees, you must submit a certificate stating that it does not exceed the prescribed limit when you submit your thesis.

These limits and requirements are strictly observed by the Board and the Degree Committees and, unless approval to exceed the prescribed limit has been obtained beforehand, a dissertation that exceeds the limit may not be examined until its length complies with the prescribed limit.

Biology: not to exceed 300, single-sided, pages of double spaced text, not including the bibliography and appendices.

Clinical Medicine and Clinical Veterinary Medicine: for the Ph.D. Degree not to exceed, without the permission of the Degree Committee, 60,000 words (80,000 words for dissertations within the field of History of Medicine) **excluding** figures, photographs, tables, appendices and bibliography.

Computer Laboratory: not to exceed, without the prior permission of the Degree Committee, 60,000 words **including** tables and footnotes, but **excluding** appendices, bibliography, photographs and diagrams. Any dissertation which without prior permission of the Degree Committee exceeds the permitted limit will be referred back to the candidate before being forwarded to the Examiners.

Engineering: not to exceed, without prior permission of the Degree Committee, 65,000 words, **including** appendices, bibliography, footnotes, tables and equations not to contain more than 150 figures. You must submit with your dissertation a statement signed by yourself giving the length of the dissertation and the number of figures. Any dissertation which, without the prior permission of the Degree Committee, exceeds the permitted limits, will be referred back to the candidate before being forwarded to the Examiners.

History and Philosophy of Science: not to exceed 80,000 words for the Ph.D. Degree and 60,000 words for the M.Litt. Degree, in all cases **including** appendices but **excluding** bibliography and notes of reference. Permission to submit a dissertation falling outside these limits must be obtained in advance from the Degree Committee.

Physics & Chemistry: not to exceed, without prior permission of the Degree Committee, 60,000 words, **including** tables, footnotes, bibliography and appendices, but **excluding** photographs and diagrams. The Degree committee points out that some of the best dissertations extend to only half this length. Any dissertation which, without prior permission of the Degree Committee, exceeds the permitted limit in length will be refused.

Social and Political Sciences: not to exceed 80,000 words **including** footnotes and appendices but **excluding** bibliography; each page of statistical tables, charts, or diagrams shall be regarded as equivalent to half a page of text. Only in the most exceptional circumstances are the Degree Committee willing to consider requests to exceed the normal length and such permission will not be granted simply because you have already exceeded the limit in writing up your work.

2. Style and format

- **Typescript** on **A4** paper (although the Degree Committees for Engineering, Management Studies and Physics & Chemistry are willing to accept **A5** size).
- **Portrait** format is expected, but **landscape** format may exceptionally be allowed by some Degree Committees; please consult the Board of Graduate Studies.
- **Double-sided printing** is permissible for the soft bound version; however, **single-sided** is required for the *text* of the final, hard bound Library copy (diagrams on facing pages are acceptable).
- **One-and-a-half spaced** type.
- *Minimum font size* for text is 11pt (12pt is preferred) and for footnotes is 10 pt.

Your dissertation must include a **title page** giving your full name, your College, the full title of the dissertation, and the degree for which it is submitted. It should also include a **summary** (see B5 above).

You should take care to ensure that the text is **legible**: the quality of printing should be such as to allow for copying; manuscript or similar entries should be of an ineradicable nature.

Photographs and other illustrations: should be scanned or printed into the text; where this is not the case, they must be originals, not photocopies, and securely fixed. Sellotape is not acceptable as an adhesive.

Presentation: please note that the form in which your dissertation is presented, and the care with which it has been prepared and illustrated, are in themselves evidence of your capabilities and will receive consideration as such. **You are strongly advised to check carefully for typing errors, spelling mistakes and poor English.** The correction of such errors may be a condition of approval for the Degree. Take particular care to ensure that the **correct version of text** appears in the copies of the dissertation submitted for examination.

NB If you intend to submit a **soft bound thesis** in the first instance, please note that this *must not be viewed as a means of submitting a provisional, unpolished version of the thesis.*

The Examiners are not expected to copy edit your work, although, of course, they will deal with errors of fact and typographical errors that affect the meaning, as well as larger issues. **The extent to which the text has or has not been properly prepared may influence their recommendation concerning the award of the Degree.**

3. Binding

Two bound copies of the dissertation are to be submitted for examination; these copies may be **hard bound or soft bound.**

- **Hard bound** means **permanently stitched and bound in stiff covers** with the title of the dissertation and your name clearly inscribed on the cover
- **Soft bound** must be bound in such a way for the contents to be **securely fixed** within the covers, which must bear the **title** and your **name**.

N.B. Whether you submit your thesis in hard or soft binding in the first instance, it is a condition for proceeding to the Degree that you submit a hard bound copy for the University Library.

- *If you submit a **soft bound copy** in the first instance, you should produce the final hard bound copy only after receiving a letter of approval for the Degree from the Secretary of the Board of Graduate Studies. Please be aware that this step will almost certainly delay the date you can graduate. Board meetings take place a week or so before graduation days and this time interval is generally too short for the production of a hard bound copy in time for approval being given for admission to the Degree.*

- *If a soft bound copy is submitted, it will almost certainly be necessary to provide a NEW copy for hard binding as most methods of soft binding create holes that would weaken conventional binding and may lead to an unacceptable loss of the margin.*

D. Submitting your thesis

1. Where to submit & what to take with you

- Bring **two copies** of the thesis to the Board of Graduate Studies. You are strongly recommended to retain one or more copies of the dissertation for your own use.
- You must also submit two *additional loose* copies of the **summary** for approval by the Examiners; these must be *identical* to the summary in the thesis itself.
- You must also sign a **declaration** regarding your right to be identified as the author (see Section A3 above).
- Bring with you any submission documents you received from the Board. Our staff will offer any guidance you may need. A **checklist** of items needed for submission of the thesis is as follows:
 - (a) two complete copies of the dissertation together with two copies of any published papers also being submitted;
 - (b) three copies of a summary of the dissertation (see B5 above) ;
 - (c) the declaration of originality of the work (see A3 above);
 - (d) if applicable, a certificate as to the length of the dissertation (see C1 above);
 - (e) if applicable, the statement by your Supervisor about work done in collaboration (see A3 above);
 - (f) a declaration regarding access to and the copying of the University Library's copy of the dissertation and summary (see A5 above);
 - (g) an Addresses for Examinations Purposes Form

Some Degree Committees may require you to submit a disc containing the text of your dissertation; your Degree Committee Office will advise you if this is necessary.

Please consult the Board of Graduate Studies *in advance* of submission if you are in doubt about any of these matters.

2. Submitting the hard bound Library copy

*If you submitted a **soft bound** thesis in the first instance, you must, when submitting the **final, hard bound**, copy of your thesis:*

- *provide a further loose copy of the **summary**, identical to that included in the final version; this is for the University Library file;*
- *sign a **declaration** that the work submitted is **identical** to that which was examined, except as required by the Examiners by way of correction.*

Permission to proceed to your Degree is conditional on the submission of the hard bound copy.

E. The examination

1. The Procedure

Your dissertation will be sent by the Secretary of the Board of Graduate Studies to your Degree Committee and referred by them to two Examiners, appointed by the Degree Committee, who **report independently and conduct an oral examination**. In *very* exceptional circumstances, at the Examiners' discretion, a written examination may be held instead of an oral examination; please consult the Secretary of the Board if you think you might require such an examination. **Video conferencing is not accepted as a medium for oral examinations for the PhD or M.Sc./M.Litt.**

If you do not have a date for your oral within eight weeks of submitting your thesis, you may contact the *Degree Committee Office* for your Faculty to enquire about progress.

*The examination procedure can take several weeks and frequently much longer. If you expect to leave the country after completing your course of research, you must submit your dissertation early enough for the Examiners to have a reasonable time in which to read it and to hold an oral examination before you leave. If you leave the country before having the oral examination **you must not assume** that the Examiners will hold a written examination instead of an oral examination.*

2. The oral (viva) examination

The oral examination need not be in Cambridge (although it is normally expected to be in the UK) and should take place in the most mutually convenient location. There are no rules for its duration, but as an approximate guide, it will normally occupy at least 90 minutes and is likely to conclude within about three hours.

The oral examination should allow:

- you to defend your thesis and clarify any matters raised by the Examiners;
- the Examiners to probe your knowledge in the field;
- the Examiners to assure themselves that the work presented is your own and to clarify matters of any collaboration;
- the Examiners to come to a definite conclusion about the outcome of the examination.

Your examiners are asked not to give you any direct indication of the likely outcome of the examination; this is because the official result can be confirmed *only by the Board of Graduate Studies*. However, the general progress of the oral should give you a fair indication of the outcome.

3. After the oral

The reports of your Examiners are considered at a meeting of the Degree Committee and are forwarded to the Board of Graduate Studies for consideration, with a recommendation about the

outcome of the examination. You will not know the official outcome until the Secretary of the Board of Graduate Studies writes to you. For all examinations set in train after 1 January 2003, your Examiners' reports will be sent to you by the Board with the result of your examination.

4. Results and leave to proceed to the Degree

The results of examinations can only be considered **at meetings** of the Degree Committees and of the Board of Graduate Studies; the timetable for these may be found in the University Diary. Submission of a soft bound thesis for examination will also delay the granting of leave to proceed to the Degree. You must take this into account in any plans you may have to attend a particular Degree Congregation.

Your College is responsible for presenting you for your Degree. Please note that Colleges reserve the right not to present for a Degree a candidate with outstanding debts to the College until such debts have been cleared.

A certificate will be issued when the Degree is conferred on you, either in person at a Congregation, or *in absentia*. You may not use the title (PhD, M.Sc. or M.Litt.) until the Degree has been conferred.

5. Submission of a revised dissertation

If you are not approved for the degree sought at the first attempt, the Board of Graduate Studies may, on the advice of the Degree Committee, permit you to submit a revised dissertation on *one further occasion only* by a prescribed date.

If you are offered, and accept, the opportunity to revise and resubmit, the Board will forward the revision advice provided by the Examiners to you and to your supervisor. The examination of a revised dissertation begins *afresh*, possibly with new Examiners, and you may be required to undergo an oral or written examination on the revised dissertation.

6. Review of results

If you are not approved for the Degree, it is open to you to make representations about the outcome, either personally or through your Tutor, under the Regulations for the Review of the Results of Examinations of Postgraduate Qualifications, which may be found in the *Statutes and Ordinances* of the University and about which further information is given as the need may arise.

APPENDIX V: OXFORD UNIVERSITY GUIDELINES FOR THESIS SUBMISSION

Students attending Oxford University may find guidance regarding the preparation, submission, and examination of the thesis by visiting the hyperlink listed below.

Preparation of the Thesis: <http://www.ndm.ox.ac.uk/page/preparation-of-thesis>

Submission of the Thesis: <http://www.ndm.ox.ac.uk/page/submission-of-thesis>

Examination of the Thesis: <http://www.ndm.ox.ac.uk/page/examination>

APPENDIX VI: NIH-UNIVERSITY OF CAMBRIDGE RESPONSIBILITIES AND OBLIGATIONS OF MENTORS

FACULTY AGREEMENT FOR NIH-OXFORD/CAMBRIDGE GRADUATE PARTNERSHIPS PROGRAM

Responsibilities and Obligations of Mentors

Congratulations on being selected to participate as a mentor in the Cambridge-NIH Scholars Program! This is an unusual graduate program in biomedical research in which two distinguished mentors and their laboratories join together to mentor a single graduate student on a thesis project that is of mutual interest to both laboratories. The principle focus of this program is to train top caliber research students in an advanced, collaborative, multidisciplinary format to best prepare them for successful careers as creative basic or clinical investigators. As a mentor, you will have the major responsibility in the development of these young people as research scientists. This task requires diligent communication between all three parties involved and requires an integrated effort during the entire term of the research project, which is expected not to exceed four years. This program is NOT to be viewed as a mechanism by which a student spends 2 years in a lab in the UK on an NIH fellowship. Similarly, it is not to be viewed as a program designed to “employ” a technically trained student to work in an NIH laboratory on one’s own project. In addition, the program requires that mentors fulfill certain teaching and/or financial obligations as a way to ensure the success of the program. Note that the Scholars are all enrolled as full-time students at Cambridge and must comply with all the rules and regulations governing graduate students. These can be found on the [Cambridge](#) website. The purpose of this document is to make clear to both parties involved the specific duties and commitments associated with service as a student mentor.

STEPS FOR SETTING UP A RESEARCH PROJECT

- (1) The two mentors in the partnership should agree in advance on an area of research of mutual interest, potential projects that the student may carry out, and which parts of the project will be conducted when and where. Although the plan will evolve with the discoveries and opportunities that transpire as a project matures, collaborators should agree on a common vision of what will constitute a successful training path for the student.
- (2) If the student chooses your collaboration and both mentors agree to take on the student, it is the responsibility of both mentors to help the student write up a research proposal (maximum of 10 pages) describing the project and to prepare a brief timeline for where and when the research will be carried out. The proposal should reflect a thorough familiarity with the relevant literature and be written by the student during orientation scheduled for the student’s first summer. This proposal will be the first task the trainee undertakes. All the students will be housed at the NIH from August 1 – September 30 (the orientation period), in order to ensure that the writing of this proposal is done properly.
- (3) In addition to helping with the research proposal, each mentor should look closely at the student’s college transcript and assess whether the student would benefit from undertaking any formal coursework or tutorials to add breadth/depth to the student’s didactic training. If it is decided the student would benefit from additional coursework, mentors are asked to submit a recommendation via email to the Office of the Managing Director of the program (lampertb@niaid.nih.gov). Mentors should be able to advise students with respect to the many specialty courses available through the NIH and its affiliates. We can organize one-on-one reading tutorials with senior faculty in recommended areas. Also, we encourage student participation in “professional” courses such as those offered at Cold Spring Harbor Laboratories, Woods Hole, the Sanger Center, etc., and assistance with funding can be provided. The request for training should also be appended to the end of the research proposal.
- (4) Mentors and students should understand Cambridge rules regarding residency requirements (6 terms) and permissions to work away from the university while at the NIH.

COMMUNICATION BETWEEN THE LABS

- (1) Since students work primarily in one lab during any given year, it is absolutely critical that good communication be maintained between the student and both mentors. This can be accomplished by e-mail and/or video or telephone conferencing (NIH has a facility for this located in Building 10 which is available free of charge to investigators). The student should seek periodic feedback from both mentors. Phone conferences should be encouraged as a way for all collaborators to discuss points in detail. *iSight*, *Skype*, or other computer cameras used for video conferencing have proven to be convenient tools to ensure students and mentors maintain appropriate levels of communication. Note that the program provides laptops to all entering students to facilitate communication and provide full access to all NIH computer resources. Regular emails between all parties are the most widely used approach.
- (2) A colloquium will be held once a year to bring both mentors and the student together for quality discussion time. This will generally take place in late June or the first week of July each year. The program holds an annual colloquium that aims to provide an opportunity for students to present their data and for student-supervisor trios to discuss their research plans in a conducive environment. Consequently, it is anticipated that mentors will attend The 2010 Colloquium will be held June 29th - 30th at Cambridge.
- (3) Each year, students must submit to the Managing Director updated CVs, biographies, and information about their research accomplishments along with their Annual Progress Report.
- (4) Students and mentors are expected to regularly publish and present their findings both within the NIH community and outside of it.
- (5) Mentors are expected to encourage students to participate in NIH-wide activities including those sponsored by the GPP, the program (e.g. Journal Club), and the International Biomedical Research Alliance (a non-profit organization that supports the program).

FINANCIAL OBLIGATIONS

- (1) The NIH mentor is responsible for paying the student stipend, health insurance, and travel beginning October 1st of the student's first year and generally lasting for 4 years.
- (2) The Scholars Program is responsible for the NIH portion of the college tuition and University fees according to the partnership agreement for two years. The Cambridge Department pays the remaining UK portion of the college tuition and University fees. In the third, fourth, and possibly fifth years the NIH mentor is responsible for the administration fee.
- (3) For Marshall and Gates Cambridge scholarship recipients, the student costs are covered for the first two years by the supporting organizations. Thus, except for costs associated with travel and the purchase of a laptop, NIH mentors should anticipate only paying student stipend costs beginning in the third year. Rhodes Scholars who are non-U.S. citizens receive three years of scholarship support.
- (4) One year of support may be provided for those students who have been awarded Churchill scholarships.

NOTE: A costing sheet is available in the "Mentors and Advisors" section of our website (<http://oxcam.gpp.nih.gov>) under Program Funding. It is also available through the link below:

- [2009 Costing Sheet](#)

TRAVEL GUIDELINES

- (1) During the year, the student may wish to attend a meeting or visit the partner lab to do an experiment or use a piece of equipment. NIH labs supporting a Scholar are expected to set aside a \$3,000 per annum travel budget. These funds must be used for research related activities only. This stipend should NOT be used for holidays or trips home to visit family. Since this is official government travel using appropriated funds, the U.S. Federal Government maintains very strict rules regarding foreign and domestic travel and all student travel must be arranged through the Administrative Officer in the student's NIH lab.

- (2) Students must make arrangements at least 7 weeks in advance of traveling in order to get proper government clearance for the trip. This is true whether the student travels from the UK to the U.S. or vice versa. The U.S. government travel agent must purchase all tickets. Students cannot be reimbursed if they purchase tickets on their own and they must submit all other travel expense receipts in a timely manner.

FIRST YEAR'S RESEARCH PROGRESS REPORT AND EVALUATION

- (1) At the end of the first year, students are required to submit a progress report which summarizes their research accomplishments during the year. For the majority of students who matriculate at the standard time, this document will be due on October 1st and is to be submitted to the Managing Director of the program (lampertb@niaid.nih.gov). For the few students who have received exceptions and matriculate at another time, the document will be due one year after the date of matriculation.
- (2) The progress report should be approximately 5 pages long (including references). If changes in the direction of the research have occurred over the course of a year, students should include a revised project timeline in the report. (Note: Cambridge University considers the first year students as "probationers" and have explicit transfer procedures that the student must complete to gain full status as a graduate student). The *Transfer Report* required for this transition may be used as a surrogate for the NIH progress report in the year the former is written.
- (3) A viva examination with the Cambridge mentor and a second university-appointed supervisor is also required at the end of the first year to allow formal progression towards the PH.D. The NIH mentor should also be included in this evaluation.
- (4) Students are expected to upload all progress reports, updated training plans, and other documentation related to their dissertations to their electronic portfolios through Lean Project Manager (LPM), our password-protected web-based portal. Links to LPM are available through the website.

SECOND YEAR'S RESEARCH PROGRESS REPORT AND EVALUATION

- (1) At the end of the second year, the student is expected to submit to the Managing Director (lampertb@niaid.nih.gov) an extensive research summary of the progress he/she has made during the first two years. This document should be 5 pages long. It must include preliminary or published findings of what has been done and plans for future experiments.

THIRD YEAR SEMINAR

In the standard operation of the program, the student will spend two years at Cambridge and two years at NIH; however, the student's precise location at any given time should be dictated by an agreement between the mentors and student according to the requirements of the science. At some point during the student's third year when he or she is present at NIH the student is required to give an open seminar on his/her work to the Laboratory or Branch affiliated with the project. It is best if the seminar is planned first in the UK with the Cambridge mentor before leaving and then polished by the mentor at NIH before that person schedules the presentation. This requirement can be substituted with a formal presentation at a meeting.

THIRD YEAR REPORT

At the end of the third year, another 2-5 page report with a final timeline is due on October 1st. This one should again review the progress made including the publication of papers in professional journals. In addition, the report should outline the plans for finishing up the thesis work. While Cambridge has no formal requirement for publication in order to be awarded a Ph.D. (D Phil) degree, both the University and the Scholars Program expect that the student will have at least one first author paper in a respected, peer-reviewed journal in order for the student to be competitive for obtaining a postdoctoral position.

FOURTH YEAR THESIS DEFENSE

If the mentors, the Cambridge University and the Scholars Program concur that the student is ready to graduate, a thesis is written and the student defends it in the UK before both an internal and an external examiner. A copy is submitted to the University and to the Managing Director of the program. Some Cambridge departments also require an oral presentation of the work.

PROGRAM FLEXIBILITY

Both Cambridge has a minimum residency requirement of 6 University terms. This translates into about 54 weeks of time that the student must spend in the UK within a 20 mile radius of the University. While the program was originally designed to have the student spend two years in each laboratory, students are offered flexibility in how the time is spent so as to accommodate the scientific exploration process. According to NIH IRTA policy, the total time must be a 50/50 split between the UK and NIH. The plan for time distribution will be acknowledged from the very beginning when the student signs the research proposal and timeline to be submitted to the Managing Director (lampertb@niaid.nih.gov) on September 30th of the first year. Alterations in this program are certainly permissible, but both mentors must agree on any changes to the student's plan. A fifth year of stipend support is also available if necessary.

RESOLUTION OF DISPUTES

If differences of opinion occur between the two mentors or between the student and either mentor about the appropriate course of action for the student's education, the first points of contact for the Class of 2009 are the Class Deans, Drs. Rick Koup and Harris Bernstein who the student or mentor may contact per the information shown below:

Class of 2009	Dr. Rick Koup	rk173f@nih.gov	301-594-8585
	Dr. Harris Bernstein	harris_bernstein@nih.gov	301-402-4770

Drs. Ron Schwartz, Mike Lenardo, Richard Siegel and other program personnel will also be available for consultation as needed. If necessary, an ad hoc task force will serve in a "third party mediator" capacity to help reconcile any differences that cannot be resolved through individual advisement. If no reconciliation is deemed possible, the Scholars Program will attempt to work out an alternative mentorship arrangement.

Other contact information:

Managing Director:

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Trans-NIH MD/PhD Partnership Program
National Institutes of Health
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301.496.6083 (Office)
301.272.5174 (Blackberry)
301.594.9606 (FAX)
Email: lampertb@niaid.nih.gov

Program Websites

<http://oxcam.gpp.nih.gov> (OXCAM)
<http://gpp.nih.gov/Prospective/InstitutionalPartnerships/MSTPatNIH/>
(MD/PhD)

NIH Program Director:

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PH 44 1223 762645
Fax 44 1223 762640
kgcs2@cam.ac.uk

Signatures

By signing below, each party confirms that he/she has read the **Responsibilities and Obligations** mentor guidelines set forth in this document and will make every effort to adhere to them.

NIH Mentor

Date

UK Mentor

Date

Student

Date

Scientific Counselor

Date

APPENDIX VI: NIH-OXFORD UNIVERSITY RESPONSIBILITIES AND OBLIGATIONS OF MENTORS

FACULTY AGREEMENT FOR NIH-OXFORD/CAMBRIDGE GRADUATE PARTNERSHIPS PROGRAM

Responsibilities and Obligations of Mentors

Congratulations on being selected to participate as a mentor in the Oxford-NIH Scholars Program! This is an unusual program in biomedical research in which two distinguished mentors and their laboratories join together to mentor a single graduate student on a thesis project that is of mutual interest to both laboratories. The principle focus of this program is to train top caliber research students in an advanced, collaborative, multidisciplinary format to best prepare them for successful careers as creative basic or clinical investigators. As a mentor, you will have the major responsibility in the development of these young people as research scientists. This task requires diligent communication between all three parties involved and requires an integrated effort during the entire term of the research project, which is expected not to exceed four years. This program is NOT to be viewed as a mechanism by which a student spends 2 years in a lab in the UK on an NIH fellowship. Similarly, it is not to be viewed as a program designed to “employ” a technically trained student to work in an NIH laboratory on one’s own project. In addition, the program requires that mentors fulfill certain teaching and/or financial obligations as a way to ensure the success of the program. Note that the Scholars are all enrolled as full-time students at Oxford and must comply with all the rules and regulations governing graduate students. These can be found on the [Oxford](#) website. All Oxford mentors should also adhere to the obligations set out in the [Oxford Code of Practice](#) for supervisors, which is also available on the website. The purpose of this document is to make clear to both parties involved the specific duties and commitments associated with service as the mentor of a student in this program.

STEPS FOR SETTING UP A RESEARCH PROJECT

- (5) The two mentors in the partnership should agree in advance on an area of research of mutual interest, potential projects that the student may carry out, and which parts of the project will be conducted when and where. Although the plan will evolve with the discoveries and opportunities that transpire as a project matures, collaborators should agree on a common vision of what will constitute a successful training path for the student.
- (6) If the student chooses your collaboration and both mentors agree to take on the student, it is the responsibility of both mentors to help the student write up a research proposal (maximum of 10 pages) describing the project and to prepare a brief timeline for where and when the research will be carried out. The proposal should reflect a thorough familiarity with the relevant literature and be written by the student during orientation scheduled for the student’s first summer. This proposal will be the first task the trainee undertakes. All the students will be housed at the NIH from August 1 – September 30 (the orientation period), in order to ensure that the writing of this proposal is done properly.
- (7) In addition to helping with the research proposal, each mentor should look closely at the student’s college transcript and assess whether the student would benefit from undertaking any formal coursework or tutorials to add breadth/depth to the student’s didactic training. If it is decided the student would benefit from additional coursework, mentors are asked to submit a recommendation via email to the Office of the Managing Director of the program (lampertb@niaid.nih.gov). Mentors should be able to advise students with respect to the many specialty courses available through the NIH and its affiliates. We can organize one-on-one reading tutorials with senior faculty in recommended areas. Also, we encourage student participation in “professional” courses such as those offered at Cold Spring Harbor Laboratories, Woods Hole, the Sanger Center, etc., and

assistance with funding can be provided. The request for training should also be appended to the end of the research proposal.

- (8) Mentors and students should understand Oxford rules regarding residency requirements (6 terms) and permissions to work away from the university while at the NIH.

COMMUNICATION BETWEEN THE LABS

- (6) Since students work primarily in one lab during any given year, it is absolutely critical that good communication be maintained between the student and both mentors. This can be accomplished by e-mail and/or video or telephone conferencing (NIH has a facility for this located in Building 10 which is available free of charge to investigators). The student should seek periodic feedback from both mentors. Phone conferences should be encouraged as a way for all collaborators to discuss points in detail. *iSight*, *Skype*, or other computer cameras used for video conferencing have proven to be convenient tools to ensure students and mentors maintain appropriate levels of communication. Note that the program provides laptops to all entering students to facilitate communication and provide full access to all NIH computer resources. Regular emails between all parties are the most widely used approach.
- (7) A colloquium will be held once a year to bring both mentors and the student together for quality discussion time. This will generally take place in late June or the first week of July each year. The program holds an annual colloquium that aims to provide an opportunity for students to present their data and for student-supervisor trios to discuss their research plans in a conducive environment. Consequently, it is anticipated that mentors will attend The 2009 Colloquium will be held June 25th at Oxford. The following Colloquium will be held on June 29th, 2010, at Cambridge.
- (8) Each year, students must submit to the Managing Director updated CVs, biographies, and information about their research accomplishments along with their Annual Progress Report.
- (9) Students and mentors are expected to regularly publish and present their findings both within the NIH community and outside of it.
- (10) Mentors are expected to encourage students to participate in NIH-wide activities including those sponsored by the GPP, the program (e.g. Journal Club), and the International Biomedical Research Alliance (a non-profit organization that supports the program).

FINANCIAL OBLIGATIONS

- (5) The NIH mentor is responsible for paying the student stipend, health insurance, and travel beginning October 1st of the student's first year and generally lasting for 4 years.
- (6) The Scholars Program is responsible for the NIH portion of the college tuition and University fees according to the partnership agreement for two years. The Oxford Department pays the remaining UK portion of the college tuition and University fees. In the third, fourth, and possibly fifth years the NIH mentor is responsible for the administration fee.
- (7) For Rhodes and Marshall scholarship recipients, the student costs are covered for the first two years by the supporting organizations. Thus, except for costs associated with travel and the purchase of a laptop, NIH mentors should anticipate only paying student stipend costs beginning in the third year. Rhodes Scholars who are non-U.S. citizens receive three years of scholarship support.
- (8) One year of support may be provided for those students who have been awarded Churchill scholarships.

NOTE: A costing sheet is available in the "Mentors and Advisors" section of our website (<http://oxcam.gpp.nih.gov>) under Program Funding. It is also available through the link below:

- [2009 Costing Sheet](#)

TRAVEL GUIDELINES

- (3) During the year, the student may wish to attend a meeting or visit the partner lab to do an experiment or use a piece of equipment. NIH labs supporting a Scholar are expected to set aside a \$3,000 per annum travel budget. These funds must be used for research related activities only. This stipend

should NOT be used for holidays or trips home to visit family. Since this is official government travel using appropriated funds, the U.S. Federal Government maintains very strict rules regarding foreign and domestic travel and all student travel must be arranged through the Administrative Officer in the student's NIH lab.

- (4) Students must make arrangements at least 7 weeks in advance of traveling in order to get proper government clearance for the trip. This is true whether the student travels from the UK to the U.S. or vice versa. The U.S. government travel agent must purchase all tickets. Students cannot be reimbursed if they purchase tickets on their own and they must submit all other travel expense receipts in a timely manner.

FIRST YEAR'S RESEARCH PROGRESS REPORT AND EVALUATION

- (5) At the end of the first year, students are required to submit a progress report which summarizes their research accomplishments during the year. For the majority of students who matriculate at the standard time, this document will be due on October 1st and is to be submitted to the Managing Director of the program (lampertb@niaid.nih.gov). For the few students who have received exceptions and matriculate at another time, the document will be due one year after the date of matriculation.
- (6) The progress report should be approximately 5 pages long (including references). If changes in the direction of the research have occurred over the course of a year, students should include a revised project timeline in the report. (Note: Oxford University considers the first year students as "probationers" and have explicit transfer procedures that the student must complete to gain full status as a graduate student). The *Transfer Report* required for this transition may be used as a surrogate for the NIH progress report in the year the former is written.
- (7) A viva examination with the Oxford mentor and a second university-appointed supervisor is also required at the end of the first year to allow formal progression towards the Ph.D. The NIH mentor should also be included in this evaluation.
- (8) Students are expected to upload all progress reports, updated training plans, and other documentation related to their dissertations to their electronic portfolios through Lean Project Manager (LPM), our password-protected web-based portal. Links to LPM are available through the website.

SECOND YEAR'S RESEARCH PROGRESS REPORT AND EVALUATION

- (2) At the end of the second year, the student is expected to submit to the Managing Director (lampertb@niaid.nih.gov) an extensive research summary of the progress he/she has made during the first two years. This document should be 5 pages long. It must include preliminary or published findings of what has been done and plans for future experiments.

THIRD YEAR SEMINAR

In the standard operation of the program, the student will spend two years at Oxford and two years at NIH; however, the student's precise location at any given time should be dictated by an agreement between the mentors and student according to the requirements of the science. At the end of the first two years, Oxford University may require a written report and a formal presentation to the student's advisory committee (as described above). When the student returns to the NIH, a third task must be performed. The student is required to give an open seminar on his/her work to the Laboratory or Branch affiliated with the project. It is best if the seminar is planned first in the UK with the Oxford mentor before leaving and then polished by the mentor at NIH before that person schedules the presentation. This requirement can be substituted with a formal presentation at a meeting.

THIRD YEAR REPORT

At the end of the third year, another 2-5 page report with a final timeline is due on October 1st. This one should again review the progress made including the publication of papers in professional journals. In

addition, the report should outline the plans for finishing up the thesis work. While Oxford has no formal requirement for publication in order to be awarded a Ph.D. (D Phil) degree, both the University and the Scholars Program expect that the student will have at least one first author paper in a respected, peer-reviewed journal in order for the student to be competitive for obtaining a postdoctoral position.

FOURTH YEAR THESIS DEFENSE

If the mentors, Oxford University and the Scholars Program concur that the student is ready to graduate, a thesis is written and the student defends it in the UK before both an internal and an external examiner. A copy is submitted to the University and to the Managing Director of the program. Some Oxford departments also require an oral presentation of the work.

PROGRAM FLEXIBILITY

Oxford has a minimum residency requirement of 6 University terms. This translates into about 54 weeks of time that the student must spend in the UK within a 20 mile radius of the University. While the program was originally designed to have the student spend two years in each laboratory, students are offered flexibility in how the time is spent so as to accommodate the scientific exploration process. According to NIH IRTA policy, the total time must be a 50/50 split between the UK and NIH. The plan for time distribution will be acknowledged from the very beginning when the student signs the research proposal and timeline to be submitted to the Managing Director (lampertb@niaid.nih.gov) on September 30th of the first year. Alterations in this program are certainly permissible, but both mentors must agree on any changes to the student's plan. A fifth year of stipend support is also available if necessary.

RESOLUTION OF DISPUTES

If differences of opinion occur between the two mentors or between the student and either mentor about the appropriate course of action for the student's education, the first points of contact for the Class of 2009 are the Class Deans, Drs. Rick Koup and Harris Bernstein who the student or mentor may contact per the information shown below:

Class of 2009	Dr. Rick Koup	rk173f@nih.gov	301-594-8585
	Dr. Harris Bernstein	harris_bernstein@nih.gov	301-402-4770

Drs. Ron Schwartz, Mike Lenardo, Richard Siegel and other program personnel will also be available for consultation as needed. If necessary, an ad hoc task force will serve in a "third party mediator" capacity to help reconcile any differences that cannot be resolved through individual advisement. If no reconciliation is deemed possible, the Scholars Program will attempt to work out an alternative mentorship arrangement.

Other contact information:

Managing Director:

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Oxford Program Director:

Program Websites

<http://oxcam.gpp.nih.gov> (OXCAM)

<http://gpp.nih.gov/Prospective/InstitutionalPartnerships/MSTPatNIH/>
(MD/PhD)

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Signatures

By signing below, each party confirms that he/she has read the **Responsibilities and Obligations** mentor guidelines set forth in this document and will make every effort to adhere to them.

NIH Mentor

Date

UK Mentor

Date

Student

Date

Scientific Counselor

Date