

Department of Immunobiology Ph.D. Graduate Program

Program and Policies Manual 2012-2013



Yale University School of Arts and Sciences School of Medicine

Director of Graduate Studies, first year students: Dr. David Schatz
Director of Graduate Studies, second year students and beyond: Dr. Peter Cresswell
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Welcome to the Graduate Program in the Department of Immunobiology at Yale University School of Medicine. Our goal is to provide you with the best possible education in the field of Immunology, through a combination of course work and laboratory research. The Department of Immunobiology and associated departments contain 50 faculty members whose laboratories are performing research in an extremely wide range of topics in Immunology and related disciplines. The guiding philosophy of the Department is that research and learning are fundamentally collaborative, and are dramatically enhanced by access to individuals with diverse expertise and interests. Therefore, we have worked hard to create a supportive and cooperative environment that stresses excellence in research. Students routinely make use of the technical and intellectual expertise of multiple different laboratories, and we urge you to take advantage of the superb resources (faculty, post-docs, graduate students and state-of-the-art technology) that are all around you. As Directors of Graduate Admissions and Graduate Studies together with the program's Coordinator, we are responsible for overseeing your progress and ensuring that it meets the highest educational standards. We, together with all of the other faculty and staff of the Department of Immunobiology, are here to help you make the most of your graduate years. We wish you great success in your research and studies.



Immunobiology Program Overview



The Yale Immunobiology Graduate Program is an independent component of Yale Graduate School. It is designed to provide the education, intellectual support and supervision necessary for students to obtain the Ph.D. degree in Immunology. The regulations described on the pages that follow are intended to provide high standards, firm guidance and flexibility, and to ensure that students are directed towards research problems that are



significant and technically practical.

Students enter the program through the Biological and Biomedical Sciences (BBS) Program of Yale Graduate School. Students are admitted to one of the seven degree granting programs, "Tracks" BBS, and during the first year, BBS and the Tracks oversee student education. During this year, students take courses, do three research rotations, and become familiar with the wide variety of research opportunities available in the biological sciences at Yale. By the end of the first year, students select a laboratory in which to do their thesis research.

The choice of a thesis laboratory will, in most cases, determine which Graduate Program a student enters. Hence, it is possible for a student in any Track of BBS in the first year to become a member of any of the departmentally based Graduate Programs in the second (and subsequent) years. For the Immunobiology Graduate Program, the typical route of entry is via the Immunology Track of BBS. But students from other tracks occasionally choose a thesis supervisor in Immunobiology and enter the Immunobiology Graduate Program.

In the second year, students continue with course work, begin thesis research in earnest, and take the prospectus exam. In addition, during the second and third years, students serve as teaching assistants in two or more courses. With the Prospectus exam successfully completed, students are admitted to candidacy for the Ph.D. and in the third and subsequent years, focus the great majority of their efforts on the research that will form the basis of the Ph.D. dissertation. The expectation is that students will complete and defend their Ph.D. dissertation within five or six years of matriculation; semesters beyond the sixth year are possible but require special approval. A Thesis Committee of three to five faculty carefully monitors progress toward the Ph.D. degree; and mentored review meetings occur every six months.

Administrative Immunology Graduate Program Offices

Professor Peter Cresswell, Director of Graduate Studies, years two and beyond, TAC 669, 785-5176

Professor David Schatz, Director of Graduate Studies, year one students, TAC 625, 737-2255

Prof. Susan Kaech, Director of Graduate Admissions, TAC 641B, 737-2423

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Immunobiology Graduate Program

Requirements for the Ph.D. Degree

1. Three research rotations
2. A minimum of seven graduate level (science) courses, taken for a grade and passed in the first three years. Pass/Fail courses (such as IBIO 600a, 601b, 611, 612, 613) – or audited courses **do not** count toward this requirement.

A grade average of at least High Pass.

A minimum of two honors are required by the end of the 4th semester.

Required Courses

- I. Ibio 530a: Biology of the Immune System
 - a. Required unless consultation with DGS and course director determines that passing the previous year final exam shows sufficient knowledge in subject. Does not reduce the seven course requirement
- II. Ibio 531b: Advanced Immunology
- III. Two Immunobiology advanced seminar courses (choose from Ibio 536a, 537b, 538a, 539b)

Seminar courses are available every Fall as well as every other Spring. First seminar must be taken for a grade. If the student has completed seven courses, then the eighth class (seminar) can be audited.

3. Ibio 600a, Introduction to Research (Pass/Fail)
4. Ibio 601b, Fundamentals of Research-responsible conduct of research (Pass/Fail)
5. Ibio 611a, 612a, 613b, Laboratory Research Training (Pass/Fail)
6. Teaching: two, one semester–long science courses.
 - a. **Only one course needs to be taught to advance to candidacy; the second teaching requirement can be fulfilled later, but is required for the Ph.D. In addition the teaching of 603b, Teaching in the Science Education Outreach program (SEOP) will be approved for credit as your second teaching experience only. Credit will not be given if teaching SEOP as your first teaching requirement.*
 - b. ***A Yale McDougal Center one day seminar entitled "Teaching at Yale" is offered each year. Attending this seminar is recommended prior to teaching.*
7. Pre-prospectus.
8. Successful completion of Prospectus exam, both oral and written components.
Advance to Candidacy by the end of semester six
9. Written dissertation, approved by Thesis Committee and an outside reader.
10. There is a strong expectation that your thesis research will result in at least one first author paper, and that you will have submitted at least one first author manuscript prior to the oral defense of your dissertation. Exceptions must be approved by your thesis committee and the DGS.
11. Oral Dissertation defense



In addition, students must fulfill all requirements set forth in the Yale University Graduate School Programs and Policies Manual.

2012-13 BBS/Immunology Faculty /Faculty Affiliates & Office Staff

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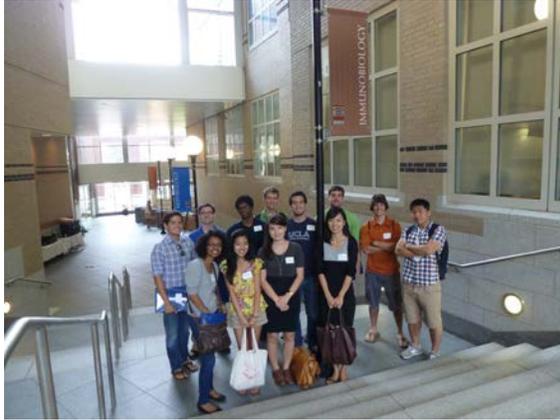
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Immunobiology Graduate Students 2012-2013

Abrahami, Parwiz, MD/Phd, - Pober Lab
Akalu, Yemstrach (Macy) (1) rotation
Allen, Nancy, (4) MD/PHD- Medzhitov Lab
Amezquita, Robert (1) rotation
Arojo, Omotooke (2) Su Lab
Banerjee, Joydeep (7) - Schatz Lab,
Beck, Thomas (3) – Peirera Lab
Bertino, Sarah (4), - Craft Lab
Campbell, Allison (5) – Shlomchik Lab
Carmona, Lina (Marcela) (3) - Schatz Lab
Chan, Pamela (4) - Rothlin Lab
Ciaccia West, Laura (6) - Cresswell Lab
Cho, Jen Young (1) - rotation student
Choy, Augustine (4) - Roy Lab
Chovatiya, Raj (3) MD/PhD - Medzhitov Lab
Dimberu, Peniel (6) - Cresswell Lab
Dinesh, Ravi (1) – rotation student
Dominguez, Claudia (6) - Kaech Lab
Erden, Asu (1) – rotation student
Fistonich, Chris (1) – rotation student
Garyu, Justin (7) - Herold Lab
Giles, Josephine, (6) - M. Shlomchik Lab
Gray, Simon, MD/PhD (2) - Kaech
Guan, Tina (2) - Kaech Lab
Hayashi, Kachiko (2) – Iwasaki Lab
Hee, Jia Shee (2) - Cresswell Lab
Herman, Edward, (2) MD/PhD – Craft lab
Jacox, Jeremy, (2) MD/PhD –Medzhitov lab
Khoury-Hanold, William (3) - Iwasaki lab
Laidlaw, Brian (2) Kaech and Craft Labs
Lipovsky, Alex (6) - DiMaio lab
Lu, Qiao (2) – Cresswell Lab
Martin, Corey (1) – rotation student
McDonald, Jessica (7) – Schatz lab
Molony, Ryan (1) – rotation student
Okin, Daniel (4) MD/PhD - Medzhitov Lab
Parker, Michael (1) – rotation student
Pang, Iris (5) - Iwasaki Lab
Pasman, Lesley (4) - Medzhitov lab
Perry, Curtis, MD/PhD (2) - Kaech Lab

Pillai, Padmini (3) – Iwasaki Lab
Ray, John (3), Craft Lab
Ruff, William (1), rotation student
Sadanand, Saheli (6) - Shlomchik Lab
Schmid, Edward (Ted) (4) - Rothlin Lab
Shetty, Keerthi, (4) - Schatz Lab
Shin, Jae Hun (1), Rotation student
Shao, Shuang (3) - Cresswell Lab
Sng, Joel (1), SOM, first year
Storer, Alex (James) (1) rotation student
Su, Tian, (6) - Medzhitov lab
Viehmnn, Ashley, (7) - Bothwell Lab
Wang, Chen (4.5) MD/Ph.D. - Pober Lab
Wang, Jessica (1) rotation student
Williams, Alan (5) - Schatz Lab
Yordy, Brian, (7) - Iwasaki Lab
Zuccarino-Cantania, Griselda, (7) - M. Shlomchik Lab



Year by Year Outline

The First Year

Below is a description of the typical first year program for a student in the Immunobiology Track of BBS. Asterisks(*) mark courses that are required by the Immunobiology Graduate Program.

Course Work

The DGS, your faculty mentor, student liaison and student services officer are on hand to help you with your course decisions. Students are required to take at least four or five science courses for a grade in the first year. The typical load is 2-3 courses per semester.

First Semester

Ibio 530a: Biology of the Immune System *REQUIRED

Required unless consultation with DGS and course director determines that passing the previous year final exam shows sufficient knowledge in subject. Does not reduce the seven course requirement

Ibio 600a: Introduction to Research (not for a grade—Pass/Fail)*REQUIRED

At least one elective graduate course

Ibio 611a, Laboratory Research training (not for a grade—Pass/Fail) *REQUIRED

Ibio 612a: Laboratory Research Training (not for a grade—Pass/Fail)*REQUIRED

NB: First year graduate students may not take the Immunobiology Seminar Course during their first semester.

Second semester

Ibio 531b: Advanced Immunology *REQUIRED

Ibio 601b: Fundamentals of Research (responsible conduct in of research) *REQUIRED (Pass/Fail)

Ibio 613b: Laboratory Research Training *REQUIRED (not for a grade—Pass/Fail)

At least one elective graduate course.

Master of Science Degree: Students who complete at least one year of resident graduate study at Yale with the quality of work judged satisfactory by the Department of Immunobiology faculty and who have satisfied 10 courses with an average grade point average of High Pass (graded) and Pass (ungraded) may petition for the award of the M.S. degree. Students must petition through the Registrar's Office of the Graduate School in early October for the December award of the M.S. and by the middle of March for the May award.

Laboratory Rotations (611a, 612a, 613b) and Rotation Evaluation Forms

Three rotations are required for all first year immunology graduate students. Rotation dates are as follows and are strictly followed:

		<u>Evaluations Due</u>
Rotation I	September 24 through December 4	end of December
Rotation II	January 7 through March 15	end of March
Rotation III	March 16 through May 25	end of May

How do you learn about Immunology Research at Yale?

There are several ways for you to find out about the research going on at Yale

- meet the faculty
- read about the faculty interests
- contact the faculty

Meet the faculty: The Immunobiology Department has coordinated a “faculty research blitz”. You will attend three different meetings and 12-15 faculty will give very short talks to introduce you to the research in their labs. After you hear about the different research interests you should then contact the faculty you are most interested in to set up personalized meetings for rotation opportunity discussions. In addition the other BBS programs at Yale, such as MCDG, will have a similar series of short research talks from the Faculty and we will get that information to you as well so you can hear about a lot of the different types of research ongoing at Yale.

Read about the faculty interests: The BBS coordinates a rotation manual compiling opportunities in many labs within the 7 tracks. You can also visit the BBS website and peruse the Immunology track faculty research interests. Additionally there are other faculty at Yale not necessarily in the Immunology Track, who have interests in Immunology, at Yale with who you may want to rotate with. If they do not present their research in our series of short talks, please feel free to contact them as well to see if they are accepting rotation students.

Contact the faculty: If you are interested in rotating in a non Immunology track faculty lab, then you will need to contact that faculty person directly because he/she may not be part of our faculty research blitz and therefore our DGS and DGA would have no jurisdiction over coordinating their rotation decisions. All BBS faculty whose labs have open rotation opportunities are open to all incoming BBS students.

How do I select a lab to rotate in?

1. After participating in the faculty research blitz, and meeting with individual faculty, as described above, you will submit the rotation selection form to Barbara indicating your top 4 choices of labs to rotate in. Submit the form at least one week prior to each rotation (see rotation dates above). Your rotation choices can change from rotation to rotation as you learn more about what you are interested in.

2. The Director of Graduate Studies and the Director of Graduate Admissions will process the requests and assign students to particular labs. The assignment will be done so as to give students their top choice as much as possible. Here are a few ways they will prioritize the selection process.

A. If only one student has PI “X” listed as top choice, the student will get that choice automatically.

B. If two students have the same top choice (PI “X”), and PI “X” can take two students, then they will both rotate together. If PI “X” can only take one student at that time, then Student 1 will get PI “X” and Student 2 will get their second choice. However, on the second and third rotations, Student 2 will have priority over other students for their top choice. In other words, a history of rankings will be kept to ensure the selection process is as fair as possible.

C. In another scenario, If two students have the same top choice (PI “X”), and student 1 has (PI “Y”) as second choice and PI “Y” is available, and student 2 has PI “Z” as second choice, and PI “Z” is not available then student 2 will be assigned to PI “X” and student 1 will be assigned to PI “Y”. In general, there will be an attempt to maximize student preferences, consistent with fairness.

At the end of the three rotations we hope that everyone will have had the chance to rotate in all three of their top choices. Moreover, if unanticipated conflicts arise we will do our best to work out a situation that best accommodates the student. If there are any faculty who are not taking rotation students for that rotation period, we will inform you of that as well at the time that you submit your lab selections.

Choosing a Thesis Laboratory

The student, in consultation with the faculty mentor selects a thesis laboratory at the end of the third rotation. An *Advisor Selection Form* will be made available through the BBS via Barbara for you to complete. A fourth rotation is allowed, with approval from the DGS.

Choosing a Graduate Program

This is a very important choice because it determines what requirements (courses, exams, etc.) you will have to fulfill for the remainder of your graduate career. The decision should be made by June 15, after consulting with the DGS. See the discussion on the Transition between BBS Tracks and Departmental Graduate Programs.

BBS Tracks and Programs - Seven interest-based "Tracks"

Within BBS, there are approximately 300 participating faculty in numerous basic science and clinical Departments located on Yale's North, South and West campuses. Graduate training begins within interest-based Tracks, each of which provides robust academic and advisory structures designed to prepare students for cutting-edge research. This year BBS launches two new Tracks that epitomize our strong collaborative environment for graduate student training:

Biochemistry, Biophysics & Structural Biology (BBSB) brings together faculty whose research relies on highly quantitative methods in biology;

Molecular Medicine, Pharmacology & Physiology (M2P2) emphasizes experimental approaches aimed at understanding human diseases.

1. **Biochemistry, Biophysics, and Structural Biology**
2. **Computational Biology and Bioinformatics**
3. **Immunology**
4. **Microbiology**
5. **Molecular Cell Biology, Genetics, and Development**
6. **Molecular Medicine, Pharmacology, and Physiology**
7. **Neuroscience**

Special Programs:

Within the BBS there are 5 special programs that offer specialized training to students. The first three require applicants to express interest in the program during the BBS application process.

Yale's Integrated Graduate Program in Physical and Engineering Biology (IGPPEB)

The Integrated Graduate Program in Physical and Engineering Biology combines traditional training in the biological sciences with skills and techniques employed in physics and engineering.

Chemistry/Biology Interface

Yale's Chemical Biology Training Program offers BBS students specialized training at the interface of biology and chemistry.

Plant Molecular Biology

The plant Molecular Biology program (PMB) offers a unique training and research opportunity for select students with specialized interest in the plant sciences in a programmatic context of broader education in all modern areas of molecular, cellular and developmental biology.

The Yale Medical Research Scholars Program

The Medical Research Scholars Program bridges barriers between traditional predoctoral and medical training by providing both medically oriented coursework and a mentored clinical experience to select BBS students.

China Scholarship Council-Yale World Scholars Program

The CSC-Yale World Scholars in Biomedical Sciences recruits top applicants from five of China's best universities for training in the BBS Program.

Additional Learning Opportunities

In today's scientific arena, even rigorous Ph.D. training is not enough. To help our students develop the additional skills necessary to succeed after graduation, we offer the additional programs and services below.

The Bristol-Myers Squibb (BMS) Educational Alliance

The BMS Educational Alliance helped launch the BBS Program and annually provides incoming and first year students with opportunities to do summer internships with their scientists at their research campus 20 minutes from Yale.

Unilever Internship Program

Initiated in 2011, the Unilever Internship Program offers select BBS students the opportunity to conduct summer research projects with Unilever's Bioscience team at the company's research center in Trumbull, CT.

The Yale PhD/MBA Joint Degree Program

Recognizing the long-standing applicability of the PhD beyond the academy and the increasing relevance of sophisticated management analysis in the highly varied positions held by many PhD recipients, the Graduate School of Arts and Sciences (GSAS) has joined with the School of Management (SOM) to offer one of the first joint degrees of its kind, the MBA/Ph.D.

The Yale Healthcare and Life Sciences Club (YHLC)

The Yale Healthcare and Life Sciences Club (YHLC) is a student-run group for students interested in the business aspects of the healthcare and life sciences industries. YHLC, with membership exceeding 1,200 people, includes students from Yale's business, medical, public health, and graduate schools. Many of its members are BBS students. The club hosts activities throughout the year and features pharmaceutical case competitions, biotech seminars, and an annual healthcare conference. For BBS students considering careers in business, biotechnology, or consulting, YHLC is a great place to gain knowledge and develop a network of professional contacts.

The Science Alliance

The Yale Graduate School has negotiated free membership for our students in the New York Academy of Sciences (NYAS) and its Science Alliance. Students benefit from the numerous online and on-site professional development programs that the Academy has to offer. The Science Alliance also hosts 2 career workshops annually at Yale. Through the Science Alliance, students discover what it's like to work as a scientific editor, management consultant, patent attorney, and other "off-the bench" occupations.

Graduate Career Services (GCS)

Career advising. CV and cover letter workshops. Networking opportunities. Career panel discussions. Job postings. And everything in between. GCS is a full-service career center for students and alumni of the Graduate School. *more...*

Graduate Teaching Center (GTC)

The GTC not only trains students to become excellent lecturers, it also teaches students how to create presentations, develop new courses, write exams, and control classroom dynamics. Those interested in careers in academia greatly benefit from this type of training.

Women in Science at Yale (WISAY)

WISAY links students with postdoctoral scholars and faculty from all science disciplines at Yale to foster career development among female scientists and to establish networks with renowned women scientists.

Women Mentoring Women (WMW)

WMW, encompassing both the sciences and humanities, provides graduate students with postdoctoral and faculty mentors to help them with career development.

The Transition Between BBS Tracks and Departmental Graduate Programs

Graduate students in the first year are members of one of the Tracks of BBS, and are not affiliated with a departmental graduate program. Students become affiliated with a departmental graduate program at the beginning of the second year, based largely upon their choice of a thesis supervisor. During the first year, therefore, students follow the guidelines established by the Track they are in. In the second year and beyond, students are governed by the requirements of the Departmental Graduate Program they enter at the beginning of the second year. The guidelines of the Track are meant to prepare students in the first year for entry into a Department in year two.

Some examples of how this might go

Student A enters the Immunology Track of BBS, and after three rotations during the first year, decides to do thesis research in the laboratory of one of the faculty affiliated with the Department of Immunobiology. Student A therefore enters the Immunobiology Graduate program at the beginning of the second year. This is the most typical route of entering the Immunobiology Graduate Program.

Student B enters the MCGD Track and ultimately chooses to do thesis research with a professor in Immunobiology. Student B typically enters the Immunobiology Graduate Program; alternatively, this student might choose to enter the Genetics, Cell Biology, or MCDB Graduate Program.

Student C enters the Immunology Track of BBS and chooses to do thesis research with a professor in the Department of Cell Biology. Student C typically enters the Cell Biology Graduate Program; alternatively this student might choose to enter the Immunobiology Graduate Program.

It is clear from these examples that it is not always possible to predict at the beginning of the first year which Departmental Graduate Program a student will eventually end up in. And since each Graduate Program has its own requirements, it can be unclear what courses to take in the first year (e.g., Student B above might not have taken Ibio 530a during his/her first year, thinking that it would not be required – and then finds that it is required by virtue of the lab she/he chose to do thesis research in).

Some guidelines for choosing courses:

Student in the Immunology Track will almost certainly take the courses outlined on the preceding page during the first year because of the high likelihood of doing thesis research in Immunobiology.

If you find yourself interested in doing thesis research with a professor who is not in the Section or Department you originally thought you'd be in (e.g., Student B and C above), don't panic. BBS and the various graduate programs have sufficient flexibility to help you through this without having to do a lot of extra course work. If necessary, you and representatives of the involved Tracks/ Departments will meet to determine what Graduate Program is most appropriate for you to enter, and which additional courses it makes sense for you to be required to take. For example, it is possible that Student C above might choose to enter the Immunobiology Graduate Program, based on courses already taken and thesis research to be performed.

The bottom line: during the first year, take the courses that meet the requirements of the program you think you will be in, and choose electives based on your interests or gaps in your previous course work.

The Second Year

In the second year, graduate students become affiliated with one of the departmentally based Graduate Programs. Students enter the Immunobiology Graduate Program by virtue of choosing to do thesis research in the laboratory of a faculty member in the Department of Immunobiology. Below is a description of the requirements and activities of the second year.

Course Work

The typical course load is 1-2 courses in the first semester and 1-2 courses in the second

First Semester:

Immunobiology seminar course
One elective graduate course might be taken

Second Semester:

Immunobiology seminar course or one elective
graduate course might be taken

REMEMBER: You must have 7 science graduate courses for a grade

Teaching

Students typically teach one, one-semester course in the second year.

Yale Teaching Program

A Yale McDougal Center one day seminar entitled "Teaching at Yale" is offered each year. Attending this seminar is recommended prior to teaching.

Teaching Protocol and Rules

- 1) Teaching in two semester long science courses is required
- 2) First year students do not teach
- 3) Teaching Ibio 603b, Science Education Outreach Program (SEOP) is an approved teaching credit only when taught as the second teaching experience
- 4) Teaching opportunities are first given to students who need the credit
- 5) Teaching for additional income is available when openings exist after those selected for credit is provided with teaching slots
- 6) The maximum teaching allowable is one course per semester corresponding to a TF4 position; more than that is too much time away from the lab. All courses taught outside of the lab for extra income must be approved by both the thesis advisor and the DGS.

Thesis Research

Most time not spent on course work is devoted to thesis research, with the goal being to develop a clear conception and preliminary data for the **Prospectus**.

More administrative details in year two

Thesis Advisor & Committee: These are the faculty you have chosen to work with towards your Ph.D. and who will read and evaluate your preprospectus, prospectus and will in many instances end up being members of your thesis committee. Provide Barbara with a list of your committee members; she needs this information for your transcripts. Based upon your research, you and your advisor will choose 3 to 4 additional faculty members to serve on your committee. (Your thesis advisor is a member of the committee). A total of four faculty on your committee is usually adequate and is easier to schedule than five. You should formally meet with each potential member to discuss their involvement and your research.

Pre-prospectus and Prospectus Exam: The Pre-prospectus and Prospectus are described below.

An outline of the process is as follows:

- ✓ Choose Prospectus Committee (*First semester of second year*) as described above
- ✓ Have Preprospectus meeting early in (second semester of second year)
- ✓ Study for Prospectus Exam and complete written Prospectus (typically takes two to three months)
- ✓ Have Prospectus Exam: should be completed before the end of the second year

Note: it is possible to accelerate this process and take the Prospectus exam at the end of the first semester of the second year. Students should have a well defined thesis project and permission from the DGS and the thesis advisor.

Preprospectus and Prospectus (Qualifying Exam)

Guidelines

Preprospectus Exam:

In advance of the Preprospectus meeting, you should prepare a short (one page maximum) description of your proposed project and distribute it to the committee members.

The preprospectus meeting should begin with a 20-30 minute presentation describing your current research. Together with your committee you will select four or five areas of Biology/Immunobiology on which you will be tested at the prospectus exam. You should formulate a preliminary reading list for each of these four or five subject areas for examination and then each list should be checked by the relevant committee member. It is an important responsibility of your committee members to make sure that the reading lists focus on the most important articles and reviews and that each list is neither too short nor too long (taking into account that you are reading in multiple areas). The committee should appoint a Chairperson for the Prospectus exam at this meeting so that an orderly and efficient Prospectus will occur that adheres to the guidelines below.

Preparing for the prospectus: You should plan on meeting individually with your committee members to expand the reading lists so that the reading provides you with a thorough and broad understanding of the subject area. Reading lists are only a means of providing you with a starting point to investigate the literature, and are not meant to be all-inclusive. You are expected to explore the literature broadly. You may wish to schedule one or more additional meetings with individual committee members to discuss questions and issues that arise during the reading. You must give a presentation as a RIP seminar which covers the content of the written Prospectus.

Prospectus Meeting: The Prospectus is held within four months of the Preprospectus meeting (and before the end of the second year for BBS students, and most times, before the end of the first year for MD/Ph.D. students). Your entire committee should be present at the exam unless special approval is given by the DGS.

Immunobiology Prospectus Exam

The oral immunobiology prospectus exam tests a student's understanding of two general areas: the proposed thesis research and the specific subjects covered in the readings (typically four to five areas of biology/immunology). In part, the prospectus exam will encompass challenging questions relating to the reading and to issues of experimental design and data interpretation.

The exam begins with a presentation on the thesis project. The presentation will be strictly limited to 30 minutes, including questions. Students should provide a focused description of the proposed thesis research that emphasizes experimental design, data interpretation, and anticipated problems and possible solutions. Background should be touched upon very briefly since the committee is already familiar with the background from the Preprospectus meeting. The chair of committee (who must not be the student's PI) shall enforce the time limit. During this 30 minute period, the student's PI must remain silent, asking no questions and providing no answers or information related to questions asked by other committee members.

The remainder of the time will be devoted to questions relating to the reading and to some extent to the thesis project. Questions test your ability to synthesize your knowledge of the relevant areas of biology/immunology (particularly as relates to the reading), to address questions through the design of new experiments, to formulate testable hypotheses, and to interpret possible outcomes of experiments. In the course of this, it should become clear whether or not you have mastered the relevant basic information derived from course work and your readings. Your thesis supervisor should not offer answers to the questions, and should remain silent except to ask questions and to provide clarification requested by other committee members.

NB: Each faculty member of your committee will each have prepared two questions in advance of the exam, which are then discussed by the exam committee during a short "pre-meeting" that takes place in your absence and before you begin presenting. This has two important functions. First, it forces faculty to give thought to their questions in advance and second, it allows the committee to screen out and/or modify questions that are deemed inappropriate (e.g., too difficult, too easy or off target).

THE WRITTEN PROSPECTUS: is to be in the format of an NIH grant proposal and should not exceed 20 pages in length (double spaced--24 point spacing is acceptable). 15 pages is an average length. The length limitation includes figures but not references. The written Prospectus should have the following sections:

Title Page

Abstract (1 paragraph)

Specific aims

Background and significance

Preliminary data/experimental plan

References

Figures (figures may be embedded in the text or may follow at the end)

Figures should be accompanied by legends.

The four possible outcomes are:

Pass: the student is unconditionally passed and will be advanced to candidacy for the Ph.D. degree when all other requirements have been met.

Fail: the student is not approved and can be asked to leave the Immunobiology Graduate Program. This is rare. Unsatisfactory performance on the first exam usually results in a result of re-examine (see below).

Conditional Pass: the student is conditionally approved for candidacy provided that specified additional work is completed satisfactorily. Such additional work could be, for example, a research paper on one of the topics that the student was felt to be weak in, revisions of the written prospectus, or other requirements to be determined by the committee.

Re-examine: the student's performance was judged to be substantially unsatisfactory, but the committee feels that extenuating circumstances exist that dictate that the student should be re-examined, perhaps using a different format (e.g., a written exam).

Year Three and Beyond

Year three is the year in which you finish any of your outstanding academic requirements, which once completed will advance you to candidacy. RIP *research in progress* presentations (see more details below) are now a requirement as are annual thesis committee meetings (see more details in subsequent pages)

An important requirement for advancement to candidacy is fulfilled at the first thesis committee meeting. This meeting, which occurs during the third year, is the first time the thesis committee meets after successful completion of the Prospectus Exam. At this meeting, the student's thesis committee must certify that the student exhibits sufficient motivation and promise in research and is making sufficient progress in their thesis research to be advanced to candidacy. This certification is required for the student to continue in the graduate program. Because students must be advanced to candidacy before the end of the third year, the thesis committee meeting should take place relatively early in year 3 (no later than February), so that if problems are identified by the committee, there is sufficient time for the student to attempt to address them prior to the end of the third year.

It is a Graduate School rule that all requirements be met by the end of semester six in your third year, unless special permission is obtained from the DGS and approved by the Dean. If an extension is needed, be prepared to meet with Dean Sleight along with a formal note to both him and the DGS describing the reason you have not advanced to candidacy and your academic plan. Please meet with both Barbara and the DGS prior to setting up the meeting with Dean Sleight.

RESEARCH IN PROGRESS SEMINARS, RIP Guidelines



Our weekly RIP seminar series offers graduate students and postdocs a chance to present their latest data to the entire department for critical appraisal and feedback, providing important experience in public speaking. It is an extremely important aspect of the Department's educational effort. These presentations are a reflection of the quality of work being performed in the Department and should be taken seriously by all.

The faculty expectations for RIP presentations are:

Presenter Requirements

Graduate students in the Department of Immunobiology are required to present RIP yearly starting in their third year and have the option of presenting RIP in year two.

Postdoctoral fellows are required to present a RIP seminar after one year in a laboratory.

Graduate students from other departments are encouraged to present RIPs; whether or not they do is at the discretion of the P.I.

Attendance

Attendance at RIP presentations is required for graduate students and postdocs. You should ensure that the time slot of Friday, 3:30-4:30 P.M. is left free for RIP every week, regardless of the subject. Since this is a weekly event, please plan your experiments accordingly. Everyone (students, post-doctoral fellows, faculty) is expected to attend unless there is a compelling reason not to do so. This is your opportunity to learn what people in other labs are doing and also to have some critical input into the experiments of your colleagues. The role of the audience at RIP sessions should be to provide both support and feedback and you are STONRLGY encouraged to ask questions.

Presentation Guidelines

Talks should consist of a clear and well-organized presentation of the background and rationale for the research, and the recent findings. In addition to communicating the goals and importance of your work, the purpose of the presentation is to elicit technical and theoretical input from the audience that will enhance progress on the project. Plan for a 20 minute talk. This will allow for 10 minutes of discussion at any time during the talk. Saving questions for the end may seem more polite but often a question asked in the middle can prevent at least some of the audience from getting lost or worrying about a certain point, and can clarify the issues. No one should be intimidated by being interrupted.

Begin your talk by introducing yourself and announce in whose lab you are working. For clarity, you should make sure that the first few slides give adequate background for your presentation. Remember, the audience is quite diverse, with members having clinical, cellular or molecular orientations. After setting up the background to your seminar, you should then go through your data, presenting it in as clear a fashion as possible. Pay attention to the order in which you present your information and to the manner in which your data slides are set up. Make sure you arrange the data in as logical and easy to interpret a fashion as you can. This will avoid confusion and save time. End by clearly stating your conclusions. Practicing your talk for a mentor, members of your lab, and/or a few friends is a good idea.

Newer graduate students, in particular, are often nervous about giving RIP seminars because they feel they do not have sufficient data. This should not be a concern. You can take the time to present the background for your project, to thoroughly outline your future plans, what your options are, what the pitfalls are, etc. No one expects every RIP seminar to be tomorrow's *Cell* paper. What you have done, and what you plan to do, however embryonic, is sufficient.

Senior students and post-docs should focus on their more recent experiments. Do not try to gloss over the problem areas of your data. This is a common problem. Remember that a primary function of these seminars is to get feedback from your colleagues. Someone in the audience may have an idea which could help, and you should encourage such ideas to come out. If you have a result which does not fit your expectations, point it out yourself. If you finish your talk having enlightened your audience, having generated a good discussion, and having acquired one or two ideas or suggestions, you have every reason to be satisfied. We should remember that this is called a Research in Progress seminar series for a reason. Stories are not expected to be complete. Please be prepared to present your data "warts and all". Perfection is neither expected nor desired, and death has so far never been a consequence of presenting. RIP does not stand for "Rest in Peace".

Evaluation of Dissertation Progress: A faculty meeting is held each spring in which each student's progress is reviewed. Research progress, course grades, performance in the laboratory, attendance and participation in seminars are all considered.

Committee Meetings

The dissertation progress of each student is determined at least once per year at a **thesis committee meeting**. Committee meetings should be held more frequently if the student or committee believes it is appropriate. The Thesis Committee is usually made up of the faculty that served as the Prospectus Committee, and should consist of the student's mentor plus three or four other faculty, chosen for their expertise in areas relating to the student's research. At least two members of the Thesis Committee should have a primary or joint appointment in Immunobiology, although exceptions can be made by the DGS under special circumstances.

The committee serves several critical functions:

1. Provide the student with suggestions concerning the research and help redirect the research into productive avenues.
2. Evaluate the student's progress and ensure that the project is interesting, novel, well focused and do-able.
3. Provide the student and the mentor with an opportunity to express privately any concerns about the research environment or the progress of the research (see below). Each committee meeting should conclude with a short meeting of the student with the committee in the absence of the mentor, and of the mentor with the committee in the absence of the student.

The format of the Thesis Committee Meeting is as follows:

1. The committee meeting begins with a presentation of the research performed to date by the student. If the meeting was shortly preceded by a RIP presentation, this portion of the meeting can be abbreviated.
2. A discussion and question period follows, or more typically, takes place during the student presentation. The committee discusses changes in emphasis or direction in the research as well as providing technical expertise. It is hoped that all matters relating to the research progress can be freely discussed at this time.

3. The committee meeting ends with an executive session of two parts:
4. The Graduate Student meets with the committee (in the absence of the advisor)
5. The Thesis Advisor meets with the committee (in the absence of the student)

It is the responsibility of the thesis advisor to write a Thesis Committee Report

1. Reports are due after each committee meeting, summarizing the discussion and the recommendations of the committee.
2. The report should be submitted on the Thesis Committee Report Form and cc'd to all committee members so that they can be sure that it reflects their opinions.
3. Report must indicate if progress is satisfactory or unsatisfactory
4. Report should be sent to the DGS, the registrar (Barbara) and cc'd to the student and committee members, as noted above
5. Please be sure to inform Barbara each time you have a Thesis Committee Meeting. This ensures that the meeting took place, that she should expect to receive a committee report from your PI, and so that reminders for your next thesis committee meeting can be sent out at the appropriate time. Barbara will send out a reminder to you and to your PI at least three months before you are due to have a committee meeting.

If the student's progress is unsatisfactory, the committee may issue a warning to the student in which the deficiencies are clearly identified and a time period is set within which it is expected that the student will correct the deficiencies. A copy of the warning is filed with the Director of Graduate Studies. At the end of the warning period, the committee and student will meet to assess progress. If upon re-evaluation, progress is found to be unsatisfactory, the committee will draft a recommendation to be reviewed by the faculty as a whole. The DGS will inform the student and committee members of the decision in writing. Two warnings by the committee /faculty may lead to termination of the association of the student with the department.

Student's progress in the program will be determined by evaluation of:

1. The quality of presentations (could be a RIP presentation).
2. The ability to discuss his/her research area and answer questions about the research and its context.
3. Research progress.

Administrative and Academic Procedures

Registration: Graduate School registration is required of all students in residence, in absentia, or submitting a dissertation. Failure to do so will result in ineligibility to use university facilities, including the libraries and health services. The graduate school will contact you each new semester. ID stickers can be picked up in Barbara's office. The graduate school offers registration on line through "OCS", online course selection. The Director of Graduate Studies is available to meet with you to discuss your academic plan. All first year students are required to meet with the DGS. After the close of registration, a \$25 late fee will be imposed. Registration after the 4th day requires the permission of the Director of Graduate studies, the FAS Registrar, and in some instances the appropriate Associate Dean; a fee of \$100 will be charged.

Summer Registration: The Associate Registrar's Office, 320 York Street, (the Graduate School), can update your Yale I.D. card with a summer sticker. This will allow you to continue to use Yale services, i.e., shuttle, gymnasium, etc. There is no fee for summer registration, if you have been registered during the proceeding academic year. Summer registration takes place during the first two weeks of June.

Extended Registration: Study toward the Ph.D. degree can be completed in five years or in some cases, less. Students in residence who pass the six-year Graduate School limit for submission of a dissertation must apply for an extension through the DGS with the approval of the Associate Dean. If this is granted, one additional year in residence is permitted. If no extension is permitted a student may continue in absentia (that is, away from the University) until the dissertation is ready for submission.

Registration beyond year six: Students must register continuously until either they have been awarded the Ph.D. or six years have elapsed since matriculation, whichever occurs first. During the first six years, students must be registered through the term of dissertation submission. Registration beyond the sixth year is not required. Registered students who submit dissertations will remain registered until the end of the term and will retain all privileges of registration (for example, library privileges and health care coverage). Students who complete all Ph.D. requirements within four continuous years of full-time study in the Ph.D. program will be registered and charged full-tuition only through the term in which the dissertation is submitted. Students who have registered part time or taken a leave of absence must complete the four-year, full-tuition obligation, regardless of when they submit the dissertation.

Academic Transcripts and Fulfillment of Requirements: Barbara reviews your academic transcripts once a year and will contact you biannually regarding any requirements you need to work on within the required academic timeframe as outlined by the Graduate School.

In Absentia Registration: A student whose program of study requires full-time study at another institution or whose fieldwork or dissertation research on a full-time basis brings her/him outside of New Haven may on recommendation of the DGS and with permission of the Dean, register in absentia. Students who are enrolled in the Yale Health Plan and are registering in absentia should consult the University Health Service about the policies governing coverage while away from New Haven.

Dissertation Progress Report – MANDATORY: Dissertation progress reports are required by the Graduate School. These forms are completed on line. You will receive an email from the Graduate School Registrar indicating when these are due with an explanation on how to complete them. Contact Barbara if you have any technical problems.

Travel to Scientific Meetings/Conferences: For those students funded from the Immunobiology Training Grant, one trip to a scientific meeting each year is allotted. The goal is to give you experience in presenting posters and papers and networking in the science community. See Barbara for Travel information and financial arrangements.

M.D./Ph.D. Students Who Join Immunobiology

An M.D./Ph.D. student affiliates with the Immunobiology Graduate program via the MD/Ph.D. program. You will have chosen your research Ph.D. course of study after matriculating through the YSM, and completing one or more research rotations (during the course of your first two years of medical school) (in many cases, the first rotation is done during the summer between years one and two of medical school).



No set number of research rotations are required. Once a thesis laboratory is selected, the student completes an application for a Ph.D. department filing it with both Cheryl Defilippo. and Barbara G. M.D./Ph.D. students with interests in the Immunobiology Graduate Program should discuss their situation with the Director of Graduate Studies as early as possible and notify Barbara Giamattei so that your graduate school paperwork can be processed.

You are typically further advanced than the traditional first year BBS graduate student, by the time you have joined Immunobiology. It is possible to defend your preprospectus (preliminary description of your prospectus research) after the first semester and prospectus (preliminary description of your thesis project) after the second semester. (For information on what the prospectus is see *Prospectus Section in this manual*)

Course requirements have a somewhat different format than the straight Ph.D. program, and are as follows;

Required: 7 science courses for a grade, *The following are mandatory;*

1) *Ibio 530a, Biology of the Immune System

**Required unless consultation with DGS and course director determines that passing the previous year final exam shows sufficient knowledge in subject. Does not reduce the seven course requirement.*

2) Ibio 531b, Advanced Immunology

3) Two Immunobiology Seminar Courses, Ibio 536a, 537a, 538a, 539a,

**First Immunology seminar course must be taken for a grade. Second seminar course can be audited if student has fulfilled the seven courses for a grade requirement.*

4) Two grades of Honors and one semester of teaching

- MD/Ph.D. students are not required to take Ibio 600a, Introduction to Research

- Ibio 601b (Fundamentals of Research) is required unless taken prior.

If you have taken the medical school equivalent of 601b, then notify your instructor to write a note to the Immunobiology DGS stating that you have taken the course and what the course entailed, (dates, topics and faculty).

Yale University graduate courses taken for a grade during medical school may be counted towards the honors fulfillment and the seven total required courses. Verification must be provided to the DGS.

***TEACHING: One semester of teaching is required.** Previously taught courses in the Medical School may count towards this requirement. To request credit for previous teaching experience, a note from the course director describing the teaching experience, (duration of the teaching experience, frequency of class meetings, number of students taught, materials covered, dates and for whom) should be provided to the Immunobiology DGS.

Following successful completion of the prospectus examination, the student will be entitled to the M.S. Degree. Once all the above requirements have been met, the student will advance to candidacy and be A.B.D., "All But Dissertation" and receive the MPhil. At that point the student will focus on research and the writing of the dissertation.

PROGRESS REPORTS are due each spring. The graduate school will contact you requesting that you complete this on line application.

The Written Dissertation and Oral Defense

A Ph.D. thesis is expected to constitute a significant body of original research that makes a contribution to our understanding of biology. At minimum, this means that it should give rise to publications in peer reviewed journals (but publication of your research does not necessarily indicate sufficient achievement for the Ph.D.). Thesis Committees will expect that your research is published, or be soon to give rise to publications, before you begin writing your thesis. Discuss this with your committee if you have questions.

There is a strong expectation that your thesis research will result in at least one first author paper, and that you will have submitted at least one first author manuscript prior to the oral defense of your dissertation. Exceptions must be approved by your thesis committee and the DGS.

The written dissertation must comply with Graduate School Dissertation Specifications.

Preparation and Submission of the Doctoral Dissertation booklets are available as part of the Dissertation Submission Packet distributed by the Graduate School, located on the web:

<http://www.yale.edu/graduateschool/>

<http://www.yale.edu/graduateschool/mcdougal/dissertationResources.html>

<http://www.yale.edu/graduateschool/academics/dissertation.html>

The dissertation defense is scheduled following submission of a complete, carefully edited draft, including all tables, illustrations, and bibliography, with one copy for each member of the Thesis Committee.

Committee members must be allowed one full week for reading the dissertation.

Your thesis defense is held as a public presentation by you at which you describe your principal findings and their significance. The presentation takes the form of a research seminar and is attended by all interested members of the Department and university research community. Final questioning is carried out, privately, before the committee. This takes place immediately following your public presentation. Your committee members will then meet and communicate its decision both to you and to the department faculty on whether a recommendation for the award of the Ph.D. degree will be granted. If the decision of the committee is favorable, the final version of the dissertation is prepared, incorporating the suggestions made by your committee. One unbound copy and three softbound copies are submitted to the Graduate School, additionally one bound copy is submitted to Barbara Giamattei for the department's future reference.

The thesis seminar must precede preparation of the final version of the thesis submitted to the Graduate School. Two members of the committee, other than the thesis advisor, should be designated as internal readers who will evaluate your thesis by means of a questionnaire provided by the graduate school. **An external reader must also be appointed from outside the committee and should have no prior acquaintance with the dissertation.** (you will need to contact each faculty you would like to have on your committee to request their participation. The readers should be approved by the DGS and their names submitted to the Graduate School on a *Notification of Reader's Form* which is completed by you and submitted to Barbara Giamattei for processing. Once the final version of your thesis is prepared, you will attach the "notification of readers report" to the thesis, and deliver it to the Graduate School (make sure Barbara Giamattei has copies).

If the committee's decision is unfavorable, the committee will indicate the deficiencies, suggestions for extension or modification of the work, and indicate the amount of additional time that should be expected for remedying the deficiencies.

In accord with the traditional scholarly ideal that the candidate for a doctorate must make a contribution to knowledge, all dissertations that have been accepted by the Graduate School are made available in the library and published on microfilm (UMI Company).

Fees and forms:

- A degree petition form must be filed with the Graduate School. <http://www.yale.edu/graduateschool/home/forms.html>
- Traditional Publishing: The fee listed is \$65.00 - Yale currently pays this fee on the student's behalf, so there is no charge to the student for this Option.
- Open Access Publishing: The fee is \$160.00 – Yale pay's \$65.00 towards this fee, so student would have to pay \$95.00 for Open Access. Student can make check for \$95.00 payable to UMI/ProQuest which will be attached to the UMI Agreement form.
- (see UMI Agreement form: www.il.proquest.com/dissertationagree)
- Username: dissertations, Password: publish – which explains the different options)
- Copyright Registration: \$65.00 - Copyright registration fee (Optional): The copyright registration fee pertains only when UMI/ProQuest will be registering copyright on the author's behalf. Page 5 in the UMI Agreement form must be completed if a student will be copyrighting through UMI/Proquest.
- Binding Fee: \$20.00 – Binding fee: The binding fee is required in all cases. Students can pay binding fee and copyright fee with one check for \$85.00 made payable to Yale University.

Filing dates are listed in the Schedule of Academic Dates and Deadlines found on the web page, [click on academics and then academic calendar](http://www.yale.edu/graduateschool/). <http://www.yale.edu/graduateschool/>

Thesis Publications: When publishing material from the thesis, the Graduate School requires inclusion of a statement saying that the paper is taken from or based on “dissertation submitted to fulfill in part the requirements for the degree of Doctor of Philosophy in Yale University”. Training Grant regulations require that the following statement be included “This investigation was supported by NIH Training Grant from ...(awarding unit).” Training Grant directors can supply the relevant information. Other grant support (e.g., American Cancer Society, Sigma Xi) should be similarly acknowledged, as should any financial aid received from faculty research grants.

Checkpoints in the Graduate Program

Students are required to follow the guidelines set forth in the Yale University Graduate School: Programs and Policies: “Regulations for academic and personal conduct”. Grievance procedures and academic regulations are also set forth in the Programs and Policies book.

In addition, students may be referred to the Graduate School for disciplinary action, including dismissal from the graduate Program, for the following reasons:

1. A record indicative of consistently poor performance in courses and rotations in the first year. Poor performance is considered a grade of “pass” in academic courses, and of “Unsatisfactory” in research rotations
2. Failure to maintain a grade average of at least High Pass
3. Failure to obtain a grade of Honors in at least two academic courses in the first three years
4. Failure to take the required courses
5. Failure to meet the teaching requirement
6. Failure to pass the Prospectus Exam.

7. Two warnings issued by the Thesis Committee as a result of unsatisfactory performance in committee meetings.

Guidelines for the Responsible Conduct of Research

I. Introduction

Federal and private granting agencies, Congressional oversight committees, and national organizations including the Association of American Universities, the Association of American Medical Colleges, and the Institute of Medicine, among others, have all perceived the need for universities and other research intensive institutions to adopt guidelines which clarify each institution's expectations about the professional standards to be observed in the conduct of scientific inquiry.

In 1982, the University published a policy statement on collaborative research (Weekly Bulletin and Calendar, Sept 13-20, 1982) which condemned academic fraud in all of its forms and which assigned to each collaborating investigator equal responsibility for the quality and integrity of a publication resulting from collaborative research. Subsequently, the University published a set of specific policies and procedures for dealing with allegations of academic fraud (Weekly Bulletin and Calendar Oct 30-Nov 6, 1989). The present guidelines are concerned with principles and practices which focus on ensuring the highest possible standards for conducting biomedical research.

Investigations of specific instances of academic fraud have repeatedly identified institutional pressures and deficiencies, which, although not directly responsible for misconduct, nevertheless create an atmosphere conducive to unacceptable scholarly, conduct. These factors include perceived pressures to publish large numbers of research papers, excessive emphasis on competition and secrecy in scientific inquiry, inadequate attention to systematic collection and retention of research data, insufficient supervision of relatively inexperienced investigators, and inadequate interaction between investigators participating in collaborative research. The following guidelines are intended to address these factors, but they can serve only as general indications of expected standards of professional conduct, not as rigid rules. Scholarly activities are too complex and varied to permit universally applicable, absolute directives.

Members of a research team including those who are trainees should meet often enough as a group to review their collaborative endeavors that each member of the team is fully informed of the status of the various components of their work. Such reviews should include the design of experiments, technical considerations, the collection, organization and interpretation of data, and the drafts of research reports. Members of research teams should be sufficiently familiar with the policies and regulations of sponsoring agencies and the University to alert principal investigators when it appears that those policies and regulations are not being met.

Departmental and institutional oversight is also necessary. A senior faculty member, usually the departmental chairman, is responsible for promoting sound research practices at the departmental level. Departments should see to it that the principles governing good research are regularly considered at faculty meetings and are appropriately included into formal and/or informal departmental activities, which involve students and trainees.

The Dean or his designate will conduct an educational program dealing with the responsible conduct of research. If specific concerns or disagreements related to research issues cannot be resolved at the departmental level, the Dean or his designate is responsible for counseling those involved. If allegations of academic fraud arise, the Policies and Procedures for Dealing with Allegations of Academic Fraud at Yale University (Weekly Bulletin and Calendar Sept. 16-23, 1996) will be initiated.

III. Conduct of Research

Management of Data. Everyone who engages in scholarly inquiry in the School of Medicine is responsible for collecting and maintaining research data in an orderly and systematic manner, which will permit ready retrieval even by those who are not familiar with the intricacies of the research or the habits of the investigator. How this responsibility is most effectively carried out will depend upon the nature of

the research and the form, which the raw data takes. In the case of quantitative measurements, for example, all raw data including all machine printouts should, whenever practical, be sequentially entered into a bound notebook and maintained in a readily retrievable form. Each entry should be dated and should identify the individual responsible for collecting and entering the data. When investigators decide that raw data must be excluded from further analysis, they should note the specific reasons for the exclusion.

Laboratory notebooks containing raw data should be considered the property of the research team leader who has overall responsibility for the research. Others who have been involved in the work should be permitted to take copies of results with them, but the original, complete set of raw data should be retained in the laboratory where the work was done for as long as possible and - depending on the nature of the data - for at least 3 to 5 years after publication of the relevant results.

Once investigators have published a detailed report of their findings, they should cooperate in making readily available to others who wish to confirm their work any data necessary to replicate the published work, such as complete DNA sequences or minor methodological details, even if a journal had not requested the information or had refused to print it. Although investigators should be as certain as possible about the validity of their findings before making their research public, the School of Medicine does not condone secrecy or uncooperative behavior which unnecessarily delays scientific progress or which deliberately misleads others working in the same field.

Authorship of scientific papers*. The increasingly specialized and technical nature of biomedical research requires that investigators understand and properly fulfill the responsibilities with respect to authorship of scientific publications, especially publications that result from multi-disciplinary collaborative research. Senior faculty members and principal investigators of sponsored research bear particular responsibility for the assignment of authorship to publications emanating from their laboratories as well as for the cohesiveness and validity of these publications.

Authorship of a scientific paper should be limited to those individuals who have contributed in a meaningful way to its intellectual content. Each author must have participated sufficiently in the work to take public responsibility for its content. The first author, although often a junior member of the research team, is usually the person who has performed the central experiments of the project. Often, this individual is also the person who has prepared the first draft of the manuscript. All co-authors should have been directly involved in all three of the following: 1) planning some component of the work which led to the paper or interpreting at least a portion of the results, 2) writing a draft of the article or revising it for intellectual content, and 3) final approval of the version to be published. All authors should review and approve the manuscript before it is submitted for publication.

*These principles are consistent with the uniform requirements for manuscripts submitted to biomedical journals now endorsed by over 400 biomedical journals (New Engl J Med 324:424-8, 1991).

Individuals do not satisfy these criteria for responsible authorship merely because they have made possible the conduct of the research and/or the preparation of the manuscript. Under no circumstance should faculty members add as co-authors highly respected individuals merely as an attempt to increase the likelihood of publication. Thus, heading a laboratory, research program, section, or department where the research takes place does not, by itself, warrant co-authorship of a scientific paper. Nor should "gift" co-authorship be conferred on those whose only contributions have been to provide routine technical services, to refer patients for study, to provide a valuable reagent to assist with data collection and assembly, or to review a completed manuscript for suggestions. Although not qualifying as co-authors, individuals who assist the research effort may warrant appropriate acknowledgement in the completed paper.

Senior faculty members have a special obligation to avoid co-authoring papers which have emanated from work independently generated by their junior colleagues. Senior faculty members should be co-authors only if they have made substantial intellectual contributions to the experimental design, interpretation of findings and manuscript preparation.

Issues surrounding authorship are not only important to those participating in a scholarly project, they are often complex or delicate, and occasionally they are controversial. To avoid disappointment, frustration, or embarrassment, participants should carefully and objectively negotiate and resolve matters relating to authorship as early in the course of a project as is feasible.

IV Evaluation of Scholarly Research

When asked by journals and research agencies to judge manuscripts and grant applications, faculty members or other members of the University community are expected to provide opinions which are not only proficient but which are also fair and unbiased. Therefore, a faculty member should decline such a request whenever a real conflict of interest arises because the work to be evaluated too closely resembles the faculty member's own current or planned research. Because relatively few individuals are sufficiently expert to review work within a particular field, however, journals or sponsoring agencies are very likely to recruit individuals who may perceive a conflict of interest. If the faculty member believes that a possible conflict exists but that an unbiased review is nevertheless possible, he or she should disclose the nature of the conflict to the journal or funding agency. Potential conflicts must also be disclosed when faculty members are asked to review manuscripts or applications evaluating products of companies in which they have financial interests or when the faculty member has a financial interest in a competing product.

Whether or not the faculty member perceives any potential conflict of interest, all manuscripts or grant applications should be reviewed and returned as promptly as possible and should be treated as confidential. The material should not be copied nor should it ordinarily be shown to others. If during a review it becomes apparent that the opinion of other experts would be helpful, the faculty member responsible for the review should, depending on the policy of the journal or funding agency, either request permission before consulting others or acknowledge the individuals who contributed to the review.

Under no circumstances should faculty members who are asked to review new and confidential information provided in manuscripts or applications use that information to further their own scholarly endeavors before that information has been made public. They have a particular responsibility not to delay their reviews to allow completion of their own related research. Moreover, faculty members who are reviewers should refrain from requesting further information or reagents from investigators who have completed work described in manuscripts or applications before that work has been formally accepted or approved.

Department Interactions ~

Immunobiology Seminar Series: The Department of Immunobiology invites speakers from around the world to present their research to the department. Graduate students and postdocs invite and host several of these speakers each year.

RIP: Research in Progress (RIP): This weekly seminar series (Fridays at 3:30PM) allows graduate students and postdocs to present their latest data to the entire department for critical appraisal and feedback, and provides important experience in public speaking. First and second year students do not give a RIP presentation, but are strongly encouraged to attend.



Lab Meetings & Journal Clubs:

Labs hold weekly meetings to discuss current research.

Graduate Student Journal clubs are held weekly in preparation of the weekly seminar speaker.

Friday Social Hour:

Every Friday following RIP presentations, a Department Social Hour is held on the 6th floor lounge of TAC allowing for informal scientific discussions. Beer, wine, and soda are provided; the Social Hour Committee organizes the labs to take turns providing the food.



Immunobiology Retreat: The Department of Immunobiology holds a scholarly retreat, which provides an exceptional opportunity for communication of ideas and results and the development of a sense of community among the members of the department. The retreat includes faculty presentations but heavily emphasizes informal workshops and a poster session, organized and chaired by graduate students and postdocs, in which these trainees can present and discuss recent data. Attendance at the retreat is mandatory for graduate students.

Financial Opportunities – Fellowships and Awards

Students will receive aid to cover the costs of tuition and health fees for enrollment in the Yale Health Plan, as well as a stipend whose amount is determined by Yale Graduate School. It is our expectation that graduate students apply for private and government fellowships subsequently while enrolled.

Fellowship Sessions Each Fall the Associate Dean offers an NSF Fellowship Session for new students in the Hall of Graduate Studies. He is also available for consultation on other fellowships. Each October the Immunobiology Department invites him to a coordinated lunch meeting for our first and second year students to discuss application processes for funding opportunities. A couple of our faculty attend and a few students who have won fellowships are also present.

Graduate Fellowships Information is available within a Yale Graduate School data base www.yale.edu/graduateschool/financial/database.html Click on the GSAS Fellowship Data Base and follow the prompts, department, citizenship, etc. The site offers current available information.

A number of such fellowships, both Federal and private, are available to qualified students. Dean Robert Haper-Mangles is an excellent source for information. In particular, we strongly encourage students to apply for:

Fellowship	Deadline	Description
NSF Graduate Research Fellowship Program (GRFP)	Early November (pls see website for deadlin)	The National Science Foundation aims to ensure the vitality of the human resource base of science, technology, engineering, and mathematics in the United States and to reinforce its diversity by offering approximately 1,654 graduate fellowships in this competition pending availability of funds. The Graduate Research Fellowship provides three years of support for graduate study leading to research-based master’s or doctoral degrees and is intended for students who are in the early stages of their graduate study. The Graduate Research Fellowship Program (GRFP) invests in graduate education for a cadre of diverse individuals who demonstrate their potential to successfully complete graduate degree programs in disciplines relevant to the mission of the National Science Foundation. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201

<p>NIH Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellows (F31)</p>	<p>April August December</p>	<p>The purpose of this individual predoctoral research training fellowship is to provide support for promising doctoral candidates who will be performing dissertation research and training in scientific health-related fields relevant to the missions of the participating NIH Institutes and Centers (ICs) during the tenure of the award.</p> <p>Note: only a few NIH institutes accept F31s for non-minority applicants (NIA, NIAAA, NIDCD, NIDCR, NIDA, NIMH, NINDS). Please look at the website for more details and think creatively with your advisor about how your work could apply to one of these other disciplines. The most likely overlap with Immune-related projects would be with NIA and NINDS and maybe NIMH. It is recommended that you talk your project over with the Institutional program staff to gauge the fit of your project with the mission of the institute.</p> <p>Application instructions: http://grants.nih.gov/grants/guide/pa-files/pa-09-208.html</p> <p>Link to application form (SF424 form) http://grants.nih.gov/grants/funding/424/index.htm</p> <p>Website that lists Institutes accepting F31 for non-minority applicants: http://grants.nih.gov/grants/guide/contacts/PA-09-208_contacts.html</p>
<p>NIH-minority fellowship Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellowships (F31) to Promote Diversity in Health-Related Research</p>	<p>April August December</p>	<p>The purpose of this individual predoctoral research training fellowship is to improve the diversity of the health-related research workforce by supporting the training of predoctoral students from groups that have been shown to be underrepresented. Such candidates include individuals from underrepresented racial and ethnic groups, individuals with disabilities, and individuals from disadvantaged backgrounds. Detailed eligibility criteria are described in the full announcement.</p> <p>Note: nearly all institutes accept F31 minority fellowships and our students have been very successful in obtaining these awards.</p> <p>Application instructions: http://grants.nih.gov/grants/guide/pa-files/PA-09-209.html</p> <p>Link to application form (SF424 form) http://grants.nih.gov/grants/funding/424/index.htm</p>
<p>Ford Foundation</p>	<p>Early November (pls see website for)</p>	<p>Through its Fellowship Program, the Ford Foundation seeks to increase the diversity of the nation's college and university faculties. Administered by the National Research Council (NRC) since 1979, these programs provide fellowship support at the predoctoral, dissertation and postdoctoral levels. Eligibility is limited to U.S. citizens who can demonstrate superior academic achievement, are committed to a career in teaching and research at the college or university level, show promise of</p>

		<p>future achievement as scholars and teachers, and are well prepared to use diversity as a resource for enriching the education of all students.</p> <p>http://sites.nationalacademies.org/PGA/FordFellowships/PGA_047958</p>	
HHMI	December (for nominees by Dean Sleight)	<p>Eligible students are:</p> <ul style="list-style-type: none"> • international graduate students in the biomedical or related sciences • demonstrated exceptional talent for research • in second or third year of graduate study • entered a thesis lab to conduct dissertation research • are not U.S. citizens, noncitizen nationals, or permanent residents of the U.S. <p>website: http://www.hhmi.org/intl_fellows</p> <p>Nominated students are directly contacted by HHMI with instructions for submitting online application. It is their responsibility to submit a complete application by Feb 16, 2011. Inst. & apps. notified in May 2011.</p>	
Vietnam Education Foundation		<p>The Vietnam Education Foundation (VEF) was established by the U.S. Congress through the Vietnam Education Foundation Act of 2000. The VEF provides fellowship support to Vietnamese nationals who wish to pursue graduate studies in STEM fields at U.S. institutions of higher learning. The VEF also supports postdoctoral opportunities for Vietnamese nationals for short term visits to the U.S. as well as funding U.S. faculty to teach in Vietnam. Since its inception, the Fellowships Office (FO) of the National Academies has played an integral role in the support of these programs.</p> <p>http://sites.nationalacademies.org/PGA/VEF/index.htm</p>	
Harriett G. Jenkins Pre-doctoral Fellowship Program (JPFP)-underrepresented minorities		<p>Fellowship Program (JPFP) increases the number of women, minorities, and persons with disabilities participating in the Science, Technology, Engineering, and Mathematics (STEM) workforce, thereby helping to eliminate the shortage of skilled workers in STEM-related disciplines. Sponsored by NASA, the JPFP facilitates the development of a more inclusive, multi-cultural and sustainable workforce by providing access and opportunity to underrepresented students who want to earn advanced degrees.</p> <p>Annually, approximately 20 three-year fellowships are awarded to support graduate students in their pursuit of advanced degrees in the STEM disciplines. Annual stipends for students pursuing master's degrees start at \$18,000. Annual stipends for students pursuing doctoral degrees start at \$24,000. With stipends, travel allowances and tuition offsets included, JPFP award packages currently start at \$32,000 per year.</p> <p>http://www.uncfsp.org/spknowledge/default.aspx?page=program.view&areaid=1&contentid=177&typeid=jpfp</p>	

<p>American Heart Association- Founders Affiliate Predoctoral Fellowship</p>	<p>July (see website for date)</p>	<p>To help students initiate careers in cardiovascular and stroke research by providing research assistance and training. Research broadly related to cardiovascular function and disease and stroke, or to related clinical, basic science, bioengineering or biotechnology, and public health problems, including multidisciplinary efforts. Proposals are encouraged from all disciplines, as well epidemiological, behavioral, community and clinical investigations that bear on cardiovascular and stroke problems.</p> <p>Note: CT is in the Founders Affiliate branch of AHA</p> <p>http://www.americanheart.org/presenter.jhtml?identifier=3059769</p>
<p>Gershon and Trudeau Fellowship</p>	<p>Via advisor nominations each Spring.</p>	<p>The Department of Immunobiology offers the Richard K. Gershon and the Francis Trudeau Pre- and or Postdoctoral Research Fellowship. The fellowships are awarded to the Immunobiology Pre- and/or Postdoctoral Fellow(s) who submit the most outstanding research proposal in the field of Immunobiology or related disciplines.</p> <p>Awards are for one year and can cover salary, tuition and health fees, but not laboratory supplies. Graduate students must be in their third year or later to be eligible to apply for the fellowship, and should be in their fourth year or later at the time that funding begins. Students/postdocs working in the laboratories of Immunobiology primary or secondary appointees are eligible.</p> <p>The Richard K. Gershon Research Fellowship honors one of Yale's greatest physician scientists whose life was taken from us prematurely and tragically. Family and friends have generously made this Fellowship possible in an effort to stimulate Pre- and/or Postdoctoral fellows to pursue a career in biomedical research and to recall continuously the creative scholarship that marked the life of Richard Gershon.</p>

External Fellowships and Combined Award Policy

All current students and applicants for admission are strongly encouraged to compete for outside fellowships. These fellowships, sponsored by both public and private agencies, confer distinction on a student who wins an award in a national competition. They are often more generous than the fellowships the University is able to provide. Students must report to their Associate Dean any scholarship/fellowship received from an outside agency or organization. Students are allowed to hold outside awards in conjunction with University stipends up to combined levels that are significantly higher than the normal stipend. During the nine-month academic year, the sum of the Graduate School's initial stipend award and all outside awards may total the standard department/program nine-month stipend plus \$4,000. If the sum of the Graduate School's initial stipend award and all outside awards exceeds this limit, the Graduate School stipend award will be reduced accordingly.

When outside awards include restricted funds (e.g., for tuition and/or research support), the restricted funds will not be used in calculating the combined stipend.

University fellowship stipends awarded as a result of this formula are subject to all applicable policies, including replacement of stipend by teaching fellowships, and are awarded for the nine-month academic year.

In no case will the application of this policy reduce the amount of an external award, nor will it reduce the amount of a Teaching Fellowship.

Immunobiology Student Fellowships Received in the last six years

2007

Saheli Sadanand, Yale Medical School Training Program

A BBS subset certificate program where selected students are chosen based upon their undergraduate record and anticipated goals.

Kristin Kohler, BBS Edward Tatum Fellowship

Dennis Jones, Anna Fuller Cancer Research Fellowship

Jessica McDonald, Anna Fuller Cancer Research Fellowship

Andrey Antov and Heung Khu Lee, Gershon Fellowships

2008

Griselda Zuccarino, National Science Foundation

Justin Garyu, Ford Foundation

Sairy Hernandez, NIH Ruth Kirschstein Predoctoral Fellowship

Anant Jani, Gershon Fellowship

2009

Claudia Dominguez, NIH Ruth Kirschstein Predoctoral Fellowship

Peniel Dimberu, NIH Ruth Kirschstein Predoctoral Fellowship

Dennis Jones, NIH Ruth Kirschstein Predoctoral Fellowship

Saheli Sadanand, National Science Foundation

2010

Alan Williams, National Science Foundation

Michal Tal, NIH Ruth Kirschstein Predoctoral Fellowship

2011

Sarah Bertino, National Science Foundation

Thomas Beck, National Science Foundation

Keerthi Shetty, National Science Foundation

Edward (Ted) Schmid, National Science Foundation

Tina Guan, CSC Fellowship

Huiyan Jin, CSC Fellowship

Kachiko Hayashi, Nakajima Foundation

Jia Shee Hee, ASTAR Fellowship

2012

Omotooke Arojo, Yale Cancer Center Training Program

Brian Laidlaw, Yale Medical School Training Program

John Ray, National Science Foundation

Robert Amezquita, HHMI Fellowship

Jen Young Cho, Fulbright Fellowship

Joel Sng, ASTAR Fellowship

Asu Erden, Gruber Fellowship

Ravi Dinesh, Gruber Fellowship

Michael Parker, Gruber Fellowship

Corey Martin, Gruber Fellowship

Income Taxes, Training Grant Support:

Tax Liability: Section 117 of the Internal Revenue Code applies to the tax treatment of all scholarships and fellowships. Under that section, non-degree candidates are required to report as gross income any monies paid on their behalf for stipends, or any course tuition and fees required for attendance. Degree candidates may exclude from gross income (for tax purposes) any amount used for tuition and related expenses such as fees, books, supplies, and equipment required for courses of instruction at a qualified educational organization. The taxability of stipends, however, in no way alters the relationship between NRSA trainees and institutions. NRSA stipends are not considered salaries. In addition, trainees supported under the NRSA are not considered to be in an employee-employer relationship with the NIH or the awardee institution. It is therefore, inappropriate and unallowable for institutions to charge costs associated with employment (such as FICA, workman's compensation, or unemployment insurance) to the training grant. It must be emphasized that the interpretation and implementation of the tax laws are the domain of the Internal Revenue Service (IRS) and the courts. The NIH takes no position on the status of a particular taxpayer, and it does not have the authority to dispense tax advice. Individuals should consult their local IRS office about the applicability of the law to their situation and for information on their tax obligations.

U.S. Citizen

U.S. tax law requires the taxation of that portion of scholarship or fellowship that exceeds the sum of tuition and required books, fees, and equipment. However, for U.S. citizens, the University is not required to withhold taxes from fellowships, or to report taxable income from fellowships at the end of the tax year, except for that portion of a fellowship directly attributable to a teaching or research assistantship. Therefore, students who receive fellowships must themselves determine whether the aggregate amount of their award exceeds the amount of tuition and required books, fees, and equipment, and they must report any taxable amount on their annual tax returns. The salaries paid to teaching and research assistants are also taxable, and the University will withhold income taxes and report the amount to the IRS at the end of the year.

Foreign Nationals

U.S. tax law requires the University to withhold income taxes on the amount of any fellowship granted in excess of tuition to students who are in the United States on either an F-1 or J-1 visa. The student's actual tax liability, however, will only be the amount awarded in excess of tuition and required books, fees, and equipment. Also, many countries have tax treaties with the United States that may exempt the fellowships of foreign students from the U.S. income taxation. The rate of withholding, depending on the terms of the tax treaties, is normally about 14%. In making financial plans, students should bear in mind that the funds available from any University-administered fellowship stipend will be reduced by the amount of tax withheld. See your *Financial Aid Information for Entering Graduate Students* brochure, which you should have received, from the Graduate School for more information.

The University withholds income taxes on the salaries of all teaching and research assistants, regardless of citizenship. Students from foreign countries are advised to consult Internal Revenue Service Publication 519 U.S. Tax Guide for Aliens, and publication 901, U.S. Tax Treaties. All students are strongly advised to save documentation of awards and expenses.

All Students

Connecticut law requires taxation of adjusted gross income as reported on federal tax returns. Many students are not subject to state tax withholding because their earnings do not exceed the allowable exemptions. Students should file a Connecticut W-4 form to ensure correct withholding of this tax. Students are strongly advised to retain copies of all award letters and receipts for the payment of tuition and required books, fees, and equipment; also, course syllabi and other material that show that books and equipment are necessary for study and research should be retained. Please give a copy of all pertinent information to Barbara for your file.

Safety Information

The University offers a group of support services related to occupational and environmental safety needs. The Office of Environmental Health & Safety is located at 135 College Street, phone: 785-3550. **Safety emergencies only: 785-3555 (during normal work hours)**

A note from the Yale Chief of Police

How you can protect yourself and your property

We've seen several recent incidents that occurred because people were distracted while walking, or because they left their laptops or phones unattended. A little action on your part will go a long way towards preventing crime: lock your desk, laptop, bicycle, office, or room when you leave; keep your digital devices out of plain view. Never display valuables, jewelry, or cash openly, and remember that phones can be an easy target for thieves; nationally, there is an increase of thieves grabbing phones from people's hands as they use them while walking, and we've seen this happen here as well. Be aware of your surroundings at all times. Pay attention to where you travel when listening to music, texting, or talking on a phone. Avoid walking alone, look for well-lighted areas and make use of the many safety resources that Yale provides:

- Dial 911 in an emergency.
- Call the Yale Police at 203-432-4400 whenever you see suspicious activity or need to report an incident.
- Become familiar with the "blue light" emergency phones along your route. You will find over 500 of them all over campus.
- Register for Bulldog Mobile, which enables YPD to find you through your registered cell phone if you need help. To register, go to: <http://publicsafety.yale.edu/bulldog-mobile>
- Learn more about YaleTip, an anonymous texting service for reporting crime by visiting <http://publicsafety.yale.edu/yaletip>
- Call 203-432-6330 or 203-432-WALK for free, door-to-door nighttime safe rides; they are available to any point on campus, 6:00 p.m. to 6:00 a.m.
- Ride campus shuttles, with stops at key points on campus and with links to the train stations; they run days and evenings. (For specific times and routes, check <http://to.yale.edu>.)

When and why you will hear from the Chief

Throughout the year, you will receive public safety updates, and also through "Messages from the Chief" that alert you to campus crimes that pose an ongoing or serious threat to the campus community; these messages are required by Federal law and are designed to provide you with information to help you stay safe. To learn more about campus safety and what actions you can take, visit www.yale.edu/publicsafety. On behalf of the men and women of the YPD, we look forward to serving you in the upcoming academic year.

Miscellaneous Information

The Graduate Education Committee

The Graduate Education Committee consists of two faculty members appointed by the faculty; the DGS, Al Bothwell; the Student Services Officer, Barbara Giamattei, and two Graduate students, selected as representatives by the graduate students.

The GEC makes recommendations to the departmental faculty for action about all aspects of graduate study including recommendation for degrees (faculty members only), the structure of the graduate program, and the welfare of the graduate students. Students can directly influence the

decisions made by this committee and improve its functioning by discussing with the student or faculty members, the administrative associate, or the DGS ideas for improving the departmental program.

Departmental rules that relate to financial matters, such as research supply money, travel reimbursement, and thesis production costs are subject to annual review by the faculty, and may be changed at any time in response to the existing financial situation.

To permit review of rule changes and informed decision as to whether to continue under rules in effect at the time of admission or to change new rules, you should retain the edition of this booklet and of the graduate School Bulletin which were issued in the year of your admission to the department.

Graduate School Organizations

The Graduate and Professional Student Center at Yale (GPSCY) at 204 York Street, 432-2638, provide a central meeting place for graduate and professional students, faculty, and alumni. Open only to members and their guests, the GPSCY operates a full service bar with reduced prices, sponsors receptions, dances, and parties, and hosts conferences, rehearsals, and exhibitions. The GPSCY is overseen by the Graduate-professional Student Senate (GPSS), a university-wide organization of graduate and professional students.

Graduate Students Assembly (GSA or the Assembly) is a student-run democratic organization, composed of representative's from each department in the biological and physical sciences, social sciences, and humanities. Its goal is to represent the interests of all Yale graduate students and bring students' concerns to bear on Graduate School policy decision. Immunobiology elects a representative each year. For more information on the GSA, visit the web site at <http://www.yale.edu/assembly>.

The McDougal Graduate Student Center, a center for graduate student life & professional development, 123 Hall of Graduate Studies 320 York Street PO Box 208236, New Haven, CT 06520-8236, phone 432-8273, mcdougal.center@yale.edu. The new McDougal center is a place where graduate students from across the campus regularly meet and share interests.

Mission – A generous gift from Mr. Alfred McDougal, a Yale alumnus, and his wife, Ms. Nancy Lauter, enabled Yale in 1997 to create the McDougal Graduate Student Center. The McDougal Center provides space and program funding for building intellectual, cultural, and social life, and for facilitating professional development activities across the departments of the Graduate School of Arts and Sciences. The McDougal center warmly welcomes the participation of students from other Yale Graduate and Professional Schools, postdoctoral fellows, faculty, staff, alumni/ae of the Graduate School, and members of the larger Yale community. Its web site (<http://www.yale.edu/mcdougal>) provides all kinds of information relating to graduate student life. The center provides members of the graduate student community with a place of their own on campus.

Facilities – The facilities of the McDougal center enhance student life in many ways. The magnificently restored Common Room has been transformed into a lounge with comfortable furnishings, internet ports, newspapers and magazines, and a student-run café serving coffee and light food throughout the day. In an adjacent wing on the first floor of HGS the center has a large multi-purpose Program Room (HGS 119) with a stage, setting for up to 100, and advanced video and sound projection equipment. The Program Room provides space for lectures, conferences, performances, film series, workshops and other events by and for students. The center also has smaller conference and meeting rooms. Graduate student groups and departments may request to reserve space by contacting the center office at 432-8273, stopping by HGS 123, or completing a request on line at www.yale.edu/mcdougal/mcdougal/roomform.html. There is a public computer cluster supported by ACS, a public copy machine, a public phone, bulletin boards and information kiosks as well. The lower floor also offers offices for the Assembly of Graduate Students, graduate student organizations, and rooms for Teaching Fellows to meet with students, lockers for graduate student use and vending machines. The McDougal Center is open days, evenings, and weekends.

Student Life Programs – Lisa Brandes, Director, 123 HGS. The center offers a variety of activities open to the G&P community. These include weekly movies on a large screen, coffeehouse musical evenings, happy hours, poetry readings, student research presentations, health and wellness workshops, teas with campus and community figures, and service opportunities such as blood drives. It hosts activities organized by student groups and departments, including cultural festivals, movies, lectures, receptions, and conferences. Activities are publicized in campus publications, in McDougal Notes calendar, on the web site, and via email lists. Find out what going on at your Center today! There are many other formal student organizations at Yale, covering a broad spectrum of interests and activities, including an active intramural sports league.

Graduate Career Services (GCS) Director, 123 HGS, 432-7375 www.yale.edu/gcs. Graduate Career Services was established to guide and education graduate students about academic and non-academic career opportunities and job search strategies. The office offers programs such as professional career development workshops, seminars, resume/CV reviews, individual counseling, on campus interviews, dossier service and current job listings.

The Office of Teacher Preparation Director, 123 HGS, 432-7377. The teacher preparation program within the McDougal Graduate Student Center works with faculty and graduate students to enhance teacher preparation programs in departments. We advise attending the Working at teaching program. The mission of Working at Teaching (WAT) (www.yale.edu/wat) is to help improve the teaching skills of Yale graduate students and to contribute to their professional development as teachers. WAT offers excellent peer-led training workshops for teaching assistants each semester, promotes dialogue in the Yale community about all aspects of pedagogy through forums and lectures, and supports teaching assistants by publishing a handbook, maintaining a resource office, and conducting classroom visitations. WAT is sponsored by the graduate School and is housed in the McDougal center. While most of the students who participate in WAT program come from the Graduate School, other G&P students who teach take part in its activities.

Resource Library for Fellowships, Careers, and Teaching (formerly the Fellowship Library) B44 HGS, McDougal center, www.yale.edu/mcdougal/resource. This is a self-service reference library intended to assist Yale graduate students, postdocs, and faculty in finding fellowships pre-dissertation, dissertation, travel and research funding. (Teaching training and career services books are being added). It contains a physical site (Room B44) of grant and funding books, announcements, and files on programs and topics, and a virtual site of links, announcement and searchable databases. For room access, check out the key from the Center office, Room 123 HGS, or ask the night program attendant on duty to let you in. Handouts and the web can explain to you how to use the materials, but the actual research is up to you.

Alternative Careers in Biosciences (ACB) is a seminar series, the goal of which is to provide resources for graduate students and postdoctoral fellows who may be interested in pursuing careers that differ from the traditional routes of academic or industrial research. The topics of last year's seminars included scientific publishing, science policy, high school science curricula development, and consulting. For more information, the web page address is <http://www.mbb.yale.edu/acb>. You can also get on the e-mail list to receive information about the seminars by sending a message to Kioji@csb.yale.edu

Grievance Procedures

Should a situation arise where a student disagrees with a departmental decision or believes that he or she has been treated wrongly by someone in the department, there are several courses of action available. The student can appeal the decision with the DGS if it lies within his jurisdiction; in such cases the DGS will ask the graduate education committee or an ad hoc committee to collect information and make a binding decision. If the matter is one that the student does not wish to raise within the Section, there are University agencies that can act for the student, including: 1) The Dean of the Graduate School– 112 HGS, 432-2733; or 2) The Deputy Provost – 133 HGS, 432-4448. The Office for Women in Medicine can be contacted at I-1010 SHM, 785-4680. In addition, the Dean of Graduate Studies has appointed a standing Grievance Committee to receive and review student complaints of sexual harassment. This committee is comprised of six members (two faculty, one member of the Graduate School Administration, two students, and one counselor). Students may

bring questions about procedure, seek informal advice, or present a complaint to any member of the board, either orally or in writing.

Keys

All graduate students in the department are entitled to have keys to rooms in which they work. Keys can be obtained from your advisor's assistant who will complete a key request form and submit it to the business office. Your key should be forthcoming within one week. Students are asked to return keys when they are no longer needed, as for example, when moving to a different laboratory, or when graduating and leaving the department.

Bicycles

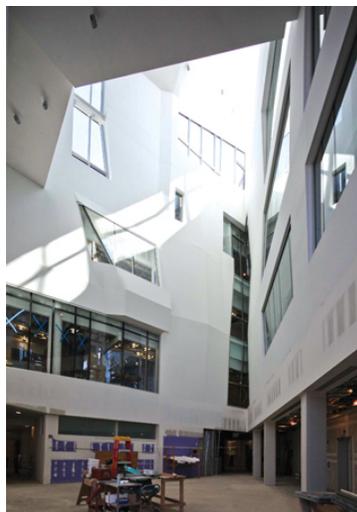
You may wish to register your bike by recording its serial number with the University Police. Bring your bike to the Special Services Unit of Campus Police, Phelps Gate (the arched entranceway to the Old campus from College Street) or call 432-4410 for more info. Security information is available during New Student Orientation. Bike racks or bike rooms are available at most graduate dorms or apartments.

Yale Shuttles

Visit the web site at <http://www.yale.edu/parking> and transit. The Daytime Shuttle operates from 7:20 AM to 6:00 PM Monday through Friday. It does not run on weekends or employee holidays, with the exception of Good Friday. The bus loops around the campus on a set route: From 333 Cedar Street, up York Street, Chapel to Howe, Elm to York, York to Tower Parkway, Broadway and Elm to College, up Prospect Street, down Huntington to Whitney Avenue, Grove to College Street, and back to 333 Cedar. Due to weather or traffic conditions, buses may run a few minutes early or late. It is recommended that all passengers arrive at designated bus stops in advance of time schedules.

Nighttime Minibus; between 6:00 PM and 7:30 AM.... 359 day a year... any person with a valid ID card can obtain free transportation on the Yale MINIBUS. The location of the various shuttles can be monitored in real time at <http://to.yale.edu/shuttle>; there is also an app for the iPad/iPhone for monitoring the Yale shuttles.

BIOMED Express is an express bus operated by Yale Medical School Support Services which runs between Lot 22 (behind Kline Science Tower) and Yale Medical School from 6:45 a.m. to 6:15 p.m. Monday through Friday, with scheduled stops at the railroad station from 7:45 a.m. to 9:15 a.m. and from 4:45 p.m. to 6:15 p.m. This service is free with a valid Yale I.D.



Yale Health Center — a patient-oriented facility on 55 Lock St opened in September 2010. Back in July 1971, University Health Services was conceived as a way to deliver high-quality, cost-effective care to students, faculty, staff and their dependents - all in one convenient campus location. Fast-forward 40 years, and the staff still manages to deliver all these services. With increased clinical space — including nearly double the number of examination rooms — the new building is an environmentally friendly healing space with lots of natural light and ample on-site parking to enhance accessibility. Patients will experience greater privacy and there are more exam rooms per clinician.

The building is LEED certified and is the first in Connecticut to receive the Green Guide for Health Care. Green-ness is an important link to health and the human condition. The building has a roof-top healing garden and cut-outs in the façade that bring in more light and create areas for green terraces throughout the building. It is really built with the patients and employees in mind.

The new pharmacy is expanded and improved, making it easier to get in and out. The new building offers flexibility to expand the space to accommodate future developments in health care, and

medical services and procedures. This permits Yale HEALTH to sustain the kind of growth and new memberships expected.

A new imaging center with a broad range of services including plain film, ultrasound, CT scanning and MRI are available. The inpatient unit has two isolation rooms for patients with serious infections. Plans call for procedure rooms for every floor, and there will be rooms for a variety of procedures requiring conscious sedation, such as endoscopies. The large, user-friendly conference spaces will allow for more on-site patient education programs.

The new building that has emerged at 55 Lock St. is very modern with a unique design.

Out of all the Yale populations being served, graduate students receive the most choices, in terms of clinician selections and service. Graduate students have the availability of both Internal Medicine and Graduate Medicine clinicians and appointment scheduling. In addition, graduate students are welcome to receive services at many other YUHS departments; including, urgent care, travel, contact lens, pharmacy, and many other departments. Contact Member Services or consult the (YHP) Yale Health Center *Member Handbook* for details regarding coverage.

Parenthood: Benefits for Pre-doctoral candidates who become parents.

New parenthood at the birth or adoption of a child substantially affects the ability of doctoral students to meet academic and professional obligations. The constraints introduced by becoming a parent while enrolled in a Ph.D. program also have long-term career effects. Recognizing this fact, the policies described below support the intersecting personal and professional lives of graduate students at Yale.

Registered Ph.D. students who wish to modify their academic responsibilities because of the birth or adoption of a child may request parental support and relief during or following the term in which the birth or adoption occurs. For the whole of the term in which the support and relief are requested, the student's academic clock stops, effectively adding an additional term to the total time to degree. During this period, students remain registered, receive the full financial aid package as specified in their letter of admission, and will have departmental academic expectations modified to best suit the specific situation. The precise nature of the academic responsibilities undertaken or suspended during this period should be a matter of consultation among the adviser, the student, and the Graduate School, with the understanding that students are entitled to full relief for at least an eight-week period. Students who take only eight weeks of relief during the semester in which, or just after, a birth or adoption occurs may receive an additional eight weeks of stipend funded by the Graduate School in a later semester; Parental Relief may not be combined with other funding. To arrange for parental relief, contact the appropriate associate dean four months prior to the birth or adoption.

Graduate students in terminal M.A./M.S. programs may modify their academic responsibilities because of the birth or adoption of a child. They should contact their associate dean the term before the planned modifications would occur.

Vacation and Sick Leave Policy

The Departmental policy regarding student vacations conforms to the stipulations of the federal training grants that provide support for most first through third year students. The excerpt below appears in an announcement of regulations contained in the application material for NIH National Research Service Award Institutional Grants (i.e. training grants), dated May 16, 1997: In general, trainees may receive stipends during periods of vacation and holidays observed by individuals in comparable training positions at the grantee institution. For the purpose of these awards, however, the period between the spring and fall semesters is considered to be an active time of research and research training and is not considered to be a vacation or holiday. The total vacation time that a student may take is negotiable with the thesis adviser, but in general it is expected that the student would take **no more than two weeks vacation** beyond the stated University holidays and the

Christmas Eve to New Year's Day break. In no case may vacations conflict with any academic or teaching obligations. Note that research labs operate throughout the year, often with little regard for University holidays and breaks. Students should transition from a "school" schedule to a full-time and self motivated research schedule as early as possible.

A period of terminal leave is not permitted and payment may not be made from fellowship funds for leave not taken. Fellows requiring periods of time away from their research training experience longer than specified here must seek approval from the NIH awarding component for an unpaid leave of absence.

Leave of Absence

With the approval of the Dean and the department, a personal leave of absence may be granted to a student who is current with his or her degree requirements and wishes to interrupt study temporarily for reasons such as pregnancy, maternity or paternity care, or financial emergencies. A student is eligible for a personal leave after satisfactory completion of one term of study. Students who have been admitted to Ph.D. candidacy can be given leaves of absence for up to two years in duration. The student should write to Dean Richard Sleight, explaining the reasons why the proposed leave is necessary together with the proposed start and end dates of the leave. The student will be informed in writing of the action taken on his or her request. Students on leave of absence do not have to apply for readmission before returning to Yale. However, they must notify the Registrar of their intention to return before the next registration period. Students on a leave of absence are not enrolled in the University Health Plan, but may continue membership by paying the full costs.

When You Leave the Department of Immunobiology

The following is a checklist of things to take care of when you leave:

- ✓ Return keys.
- ✓ Return all library books.
- ✓ Give the DGS/Barbara your new job title and address.

The department cannot be responsible for items you leave behind. Take all your personal belongings with you.