

Renewing the Ph.D.... at Yale: The 2-4 Project Report from the Department of Immunobiology

Overview: Discussion of the Immunobiology Graduate program this academic year commenced with a Town meeting of a majority of the Immunobiology graduate students on Oct. 30, 2006. The meeting began with a presentation by Dean Sleight on issues related to plagiarism followed by a discussion of the graduate program that lasted approximately 2 hours. Subsequently there have been discussions at several faculty meetings to discuss relevant issues including the confidential statements made in response to the 2-4 questionnaire to graduate students and how to address in detail the issues raised in the Town meeting.

The Immunology graduate program began in about 1977 and during these 30 years has had a policy of monitoring the progress of individual students and maintaining written records of the progress of students which have been available to students. The program structure of coursework and rotations has been under continual evaluation. A detailed Immunobiology Graduate Program Handbook has been made available to all incoming students for many years which clearly outlines important information about the yearly progression of requirements. Recently, a student and faculty "Friends" or mentors program for incoming students has been instituted and received positively by the new students. Overall the students are quite happy about the structure of the PhD program including the program of courses, teaching and quality of research opportunities. Indeed, there was a sense of pride in the core immunology course offerings that demonstrated a commitment of faculty to a well-planned curriculum and broad exposure to the field and development of their careers. However, one common theme that was expressed in several different ways was the issue of mentoring, as described below. While the Immunobiology Program is a highly successful graduate program, the more formal assessment of the details of the program occasioned by the 2-4 review has been valuable and this self-evaluation will continue.

Monitoring of Students. Our system of monitoring student progress begins with student rotations and consisted of a form filled out by the students to report in narrative style the important details of their experience. A form was also to be completed by the advisor that was essentially a narrative recounting the experience of the student; the content of the evaluation provided was up to the discretion of the PI. Beginning in their third year, students are required to have two meetings per year with their dissertation research committee and commonly one is held following presentation to the whole Department in the form of a Research-In-Progress seminar. We have previously required that the dissertation mentor file a written letter summarizing the progress of the student and reporting the assessment of the thesis committee. During the past year we have switched from reporting these letters by hard copy to the DGS to an electronic copy which is supposed to be forwarded to the students. The content of these letters has varied significantly with some containing a detailed assessment to others in which only a brief summary of the progress of the student was made. When problems have arisen in the past, we have obtained more detailed reports and progress was carefully monitored.

Corrective actions taken. There are now four mechanisms that record the progress of our students which are improvements in the previous mechanisms. The rotation evaluation forms are modified which now provides the student with a significantly more detailed evaluation of the rotation. Examples of the forms are included at the end of this report. The most significant modification in monitoring of student progress is the creation of a new form for providing feedback from thesis committee meetings. This form is now in use and requires that the advisor respond in some detail and includes additional questions that have usually not been addressed in previous committee reports (also included at the end of this report). Students or faculty may add additional comments to the report filed by the faculty mentor.

The initiation of the electronic reports of progress by the students to the Graduate school has resulted in students providing a remarkably details accounting of their scientific progress. Previous reporting by hardcopy resulted in relatively little information on scientific progress. These are very useful summaries for the DGS to monitor student scientific progress. This record together with the new form filled out by the mentor now provides a complete record of progress and is available to the student, mentor and DGS.

Changes to Immunobiology Prospectus Exam

The oral Immunobiology Prospectus Exam tests students' understanding of two general areas: the proposed thesis research and the specific subjects covered in the readings (typically four-five areas of biology/immunology). Immunobiology students have noted that Prospectus exams sometimes fail to address the reading material adequately and hence are not sufficiently challenging and leave students wondering why they spent so much time on the reading. Faculty have also noted that questions related to the thesis research often take up a large portion, sometimes even the majority, of the two hours allotted for the exam. It was felt by the faculty that the Prospectus Exam should be re-focused so that it emphasizes challenging questions relating to the reading and to issues of experimental design and data interpretation.

To accomplish this, the following changes have been made:

1. As before, the Exam will begin with a presentation by the student on her/his thesis research project. However, this presentation will be strictly limited to 20 minutes, including questions. Therefore, students should provide a focused description of the proposed thesis research that emphasizes experimental design, data interpretation, and anticipated problems and potential solutions, and which touches on general background only briefly (the committee should be familiar with the background from the Preprospectus process). The chair of committee (who must not be the student's PI) shall enforce this time limit.
2. The remainder of the time will be devoted to questions relating to the reading and to some extent to the thesis project. Questions should test the ability of students to synthesize their knowledge of the relevant areas of biology/immunology, to address questions through the design 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 the student has mastered relevant basic information derived from course work and the reading.

Faculty have been reminded that current guidelines state that they should prepare two questions in advance of the exam, which are then discussed by the exam committee during a 15 minute "pre-meeting" that takes place in the absence of the student and before the student begins presenting. This has two important functions. First, it forces faculty to give thought to their questions in advance—and under the new guidelines, would allow good, experimentally focused questions to be formulated. 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).

Other issues.

Coursework. The structure of courses was discussed at both the Town meeting and in faculty meeting. The students felt that the requirement for 7 courses was appropriate and reducing the number to 6 to perhaps reduce time to graduation was not desirable. The faculty concurred with this assessment.

Teaching requirement. Students now must complete a two semester teaching requirement prior to being admitted to candidacy. We will now allow students to complete the second teaching requirement in the fourth year if that allows them to meet other academic or research needs.



IMMUNOLOGY TRACK



LABORATORY ROTATION EVALUATION FORM

Student:
Rotation: **First Lab Rotation**

Rotation Mentor:
Rotation Dates:

This form is to serve as a written evaluation for the performance of the graduate student indicated above. It is to be filled out by the mentor who accepts responsibility for setting the objectives of the rotation, and who directs the training of the student during the given lab rotation.

MENTOR PLEASE NOTE: It is critical for the student's development as a scientist that you be as honest and objective as possible in this evaluation.

Please **assess the performance of the student on a scale of quality from 1-5, with 1 being excellent and 5 the equivalent of failure. Make the number BOLD.**

- I. Overall Motivation for Scientific Research: 1 2 3 4 5
- II. Knowledge about the Subject of the Rotation: 1 2 3 4 5
- III. Familiarity with the Scientific Literature: 1 2 3 4 5
- IV. Proficiency in Bench Work: 1 2 3 4 5
- V. Interactions with co-workers in the lab: 1 2 3 4 5

VI. SPECIFIC COMMENTS: Performance relative to level of prior experience and background, and ability to evaluate experimental results.

VII. SPECIFIC COMMENTS: Student's commitment, enthusiasm, and drive.

VIII. SPECIFIC COMMENTS: Strengths

IX. SPECIFIC COMMENTS: Weaknesses (areas for the student to work on)

X. How would you rate the student's overall performance in this rotation?

Excellent_____ Very Good_____ Good_____ Average_____ Poor_____

MENTOR PLEASE NOTE:

Please ask the student to also sign and date this form, indicating that they are aware and accepting of this evaluation. Electronic entry of name and date is adequate.

Student signature _____
Date _____

Faculty signature _____
Date _____

Please return the original, signed Form to:

Barbara Giamattei
Immunology Track Registrar
Yale University
TAC S531

Questions? Tel: 785-3857

IMMUNOLOGY TRACK ROTATION EVALUATION – Student Report

Name of Student: _____

Name of Mentor: _____

Rotation (1, 2, 3)

Dates of Rotation

TO BE COMPLETED BY STUDENT

My experience during this rotation has been (check one)

_____ satisfactory

_____ unsatisfactory

Comments about the rotation: (Please provide comments as to the mentor's availability; the project feasibility; day to day guidance; treatment of you as a member of the team; collaborative efforts).



Immunobiology Graduate Program Thesis Committee Report

Student:

Mentor:

Committee (Members present and absent):

Date of Committee Meeting:

Date of previous Committee Meeting:

Target date for completion of Ph.D.:

Progress toward specific aims since previous meeting; are aims well defined and focused?

Experimental Plan for next 6 months:

Publications (including submitted and planned):

General Impression/Comments:

Any specific areas that need improvement (effort, focus, productivity, intellectual input into project, quality of presentation/communication skills, command of literature in field, background knowledge, need to learn new technique?):

Was this meeting valuable for the student in terms of scientific direction? When appropriate, is the student thinking about his/her future career?

Please remember that the student should leave the room at the end of the meeting so that the mentor can discuss the student's progress with the committee. Then, the mentor leaves the room so that the student can discuss any concerns that may have arisen with the committee. After the committee meeting has ended, the Chair of the committee (Mentor) should fill out this form and email it to the student, the Thesis Committee, the Immunobiology Registrar Barbara Giamattei, and the DGS, Al Bothwell.