

Immunology & Molecular Pathogenesis
STUDENT HANDBOOK
2014 - 2015

Laney Graduate School
Graduate Division of Biological & Biomedical Sciences

**IMMUNOLOGY AND MOLECULAR PATHOGENESIS PROGRAM
STUDENT GUIDELINES
GRADUATE DIVISION OF BIOLOGICAL AND BIOMEDICAL SCIENCES**

I. IMP PROGRAM ADMINISTRATION

Director

Brian Evavold	Dept. of Microbiology/Immunology 3128 Rollins Research Center	727-3393
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Director of Graduate Studies- 1st Year Students

Tracey Lamb	Dept. of Pediatric Infectious Diseases 3105 Rollins Research Center	712-7883
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Director of Graduate Studies- Senior Students

Larry Boise	Dept. of Medicine C4012 Winship Cancer Institute	778-4724
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Recruiter

Jacob Kohlmeier	Dept. of Microbiology/Immunology 3133 Rollins Research Center	727-7023
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Recruitment Committee Members

John Altman	Dept. of Microbiology/Immunology Emory Vaccine Center	727-5981
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Cheryl Day	Dept. of Microbiology/Immunology Emory Vaccine Center	727-9425
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Ifor Williams	Dept. of Pathology 105D Whitehead Building	727-8547
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Seminar Directors

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Executive Committee Members

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Jerry Boss	Dept. of Microbiology/Immunology 3131 Rollins Research Center	727-5973
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Seminar Directors

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Executive Committee Members

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II. ADMISSION TO GRADUATE STUDIES

A. ADMISSION REQUIREMENTS

The graduate Program in Immunology and Molecular Pathogenesis is designed for those pursuing a Ph.D. degree or the combined M.D.-Ph.D. degrees. The Program's Executive Committee evaluates applicants principally on research experience, educational background, Graduate Record Examination scores and letters of recommendation and will make admission recommendations to the Director. A successful applicant typically has a strong science background including coursework in biology, inorganic and organic chemistry, biochemistry, and molecular biology. Deficiencies in course background may be made up during the first year of graduate study upon recommendation of the Executive Committee. We do not admit students for a Masters Degree.

Applicants who have or will have successfully completed two or more years of medical school with a standard curriculum may request admission directly into Advanced Standing.

B. ADMISSION OF TRANSFER STUDENTS FROM OUTSIDE EMORY

We require that the student complete their current graduate program, or resign from the graduate program before such applicants will be considered by our normal procedures. Upon request, we will confidentially consider applications according to the following policy.

1. The student must submit a complete application, with the exception of letters of reference.
2. This material will be reviewed by the admissions committee and the applicant will be advised as to the competitiveness of the application.
3. If the student wants to continue the application process, the references will be contacted, as well as the chairman or director of the current graduate program.
4. If the student's current program has no objections, we will then consider the application in our regular manner.

C. TRANSFER TO ANOTHER GRADUATE PROGRAM AT EMORY

Students admitted to the IMP Program are supported by the Graduate Division of Biological and Biomedical Sciences (GDBBS). As such, they may choose to do rotations or thesis research with any faculty who are members of the GDBBS. If, however, the student chooses to carry out dissertation work with a faculty member who is not a member of the IMP Program, three possibilities exist:

1. The student can find a co-mentor in the IMP program. This should not be undertaken lightly by the co-mentor, since this amounts to an agreement to support this student intellectually should problems arise.

2. The faculty member can join the IMP Program. This is subject to the normal procedures for inducting new faculty into the program, and is limited to faculty with training, credentials, and research support in some area of Immunology and Molecular Pathogenesis.

3. The student can arrange to transfer to the graduate program where the proposed mentor holds a training appointment. A letter of intent requesting the transfer should be sent to your current program, to your intended program, and to the Director of the Graduate Division of Biological and Biomedical Sciences. The Executive Committee of the intended program will review the IMP Student Guidelines & Requirements student's record and approve or deny the transfer. It is expected that in most circumstances the transfer will be approved. Any additional requirements (course work, etc.) should be specified in writing and agreed upon by both the student and the intended graduate program.

III. ADMINISTRATIVE STRUCTURE

All graduate degrees offered by the program in Immunology and Molecular Pathogenesis are granted by the Laney Graduate School and the Division of Biological and Biomedical Sciences. The Dean of the Graduate School and the Director of the Division are assisted in the formulation of policy and the resolution of problems by an Advisory Committee, which consists of the Directors of programs offering graduate training. In addition, a Divisional Student Advisory Committee consisting of students from each of the programs affords a way for student concerns to be raised and discussed.

A. LABORATORY ROTATIONS

Each student must do research in at least 3 different laboratories of GDBBS faculty during the first year, with the following exceptions. One of these laboratory rotations may be satisfied by eight weeks of full-time research during the summer prior to matriculation. Some students may decide to do a fourth rotation during the summer after their second semester. Students entering the program in Advanced Standing or with prior laboratory experience may arrange to do fewer rotations and special exceptions can also be made given sufficient justification with the approval of the Executive Committee. **Prior to each rotation, students must consult with and obtain written approval from the Director of Graduate Studies (DGS). Once approval is obtained from the DGS, students must obtain written approval from the faculty member. Laboratory rotation forms are available on the IMP website** (http://www.biomed.emory.edu/PROGRAM_SITES/IMP).

Laboratory rotations expose students to different research approaches and techniques of modern science. They help define a student's research interests and make it easier to select an advisor. However, the choice of advisor is not limited to the faculty with whom the student has done a rotation. Rotations also allow faculty to observe and evaluate the first-year student in their laboratory setting. Faculty are required to submit written comments on rotation performance to the DGS. Expectations for time spent in the laboratory should be clearly established between the faculty member and the student before beginning each rotation. Students are expected to be working on their projects

when not attending class. **Once each rotation has been completed, students must complete a Laboratory Rotation Summary Report and obtain the signature of the faculty member. This report should be turned into Nicole Sullivan.**

Individual rotations are generally scheduled for the following dates:

Rotation #1: 2nd Week of October through 3rd Week of December

Rotation #2: 1st Week of January through 2nd Week of March

Rotation #3 3rd Week of March through 4th Week of May

Students may arrange their first laboratory rotation during September but are **required to complete the Introduction to Research course** which concludes in the 1st week of October **BEFORE** contacting faculty for their remaining laboratory rotations. Each member of the IMP faculty provides a brief overview of their research in the Introduction to Research course, exposing students to the wide variety of research interests available to them. Students must submit an approved *Laboratory Rotation Notification* before beginning each rotation.

B. THESIS ADVISORS

The Director of Graduate Studies will serve as advisor until the student has selected a thesis advisor. Selection of a thesis advisor takes place after the final laboratory rotation. No final commitments should be made to a faculty member by the student (or vice-versa) until this time. The thesis advisor must be a member of the GDBBS. Although not mandatory, we strongly encourage students to select a thesis advisor who is a faculty member of the IMP Program.

Note: Students who choose a thesis advisor at the CDC must have a co-advisor who has an Emory University faculty appointment and is a member of the IMP program. Students must obtain written approval from the Director of Graduate Studies before selecting a laboratory for dissertation research. An approved *Thesis Advisor Notification* form (found on the IMP website) must be completed prior to completing the GDBBS Mentor Assignment Form. Students must complete the GDBBS Mentor Assignment Agreement Part I & II. The original is to be returned to the GDBBS office, 314 Dental Building. The GDBBS mentor form requires the signatures of the student, Thesis Advisor, IMP director, and department chair of the Thesis Advisor.

One of the most important decisions you will make as a graduate student is your choice of a thesis advisor. The thesis advisor has the prime responsibility for direction of course and research activities necessary for a graduate degree in Immunology and Molecular Pathogenesis. The following criteria should be considered when evaluating potential thesis advisors:

1. Likely production leading to publications

What is the laboratory's track record for publication? Are these publications in quality journals?

No creditable and competitive degree in an experimental science should be awarded

without one or more full-length publications resulting from research.

2. Support for the research

Is there a research grant, i.e., peer-reviewed funding, which can facilitate the purchase of necessary materials and services needed? How committed are funds toward other people and projects? An important measure of the quality and importance of the research effort is that external review by scientists knowledgeable in the field has led to the competitive award of money to support the project area. Such grants also reflect the judgment that training and past production of the principal investigator warrant the grant. Remember that after your second year, your stipend will derive from the grants of your thesis advisor.

3. Nature, scope and training to be provided by the thesis project

How certain are positive, publishable results? Is it likely that a breadth of techniques can be learned such that future development and versatility of the student is well served?

The best training for a modern scientist must provide a breadth of research experiences that significantly augment formal lecture and laboratory courses. It can be argued that a good research problem would be sufficiently open-ended as to allow several aspects of a major question to be approached by diverse methodology. A student should discuss research projects with each of several potential mentors to see what may be of mutual interest.

4. Seniority of advisor and laboratory environment

What is the depth and breadth of the advisor's training and research experience? How versatile and technique-wise are associate (technician, post-doc, student) personnel in a given research group?

In general, a more established faculty member may have a larger laboratory group and potential collaborators. These must often be relied upon to teach particular techniques. The senior faculty person may be committed to a range of duties that interfere with bench supervision. Such supervision is more likely with younger faculty. Hence, if frequent or constant need for direction is desirable, one should be clear that it can be provided. The long-range value of a faculty advisor is also based in part on outside contacts and knowledge of postdoctoral and job connections. A student should meet the lab personnel of the potential advisor for a sense of the type of supervision provided and whether there appears to be a desirable ambiance in a group.

5. Area of research

How interesting is the subject area to you? What are its ultimate directions and goals?

C. THESIS COMMITTEES

A thesis committee is to be selected by the student's Research In Progress presentation in the second semester of the second graduate year. The 5-member committee must include the dissertation advisor, who serves as chairperson, and at least three faculty members of the IMP Program. A *Thesis Committee Notification* form must be filled out, signed by all committee members, and returned to Dental School 300A.

The duties of the thesis committee include assisting the student in creating and executing an original, publishable research project, assisting in the preparation of an acceptable dissertation and administering the final oral examination (i.e., the dissertation defense). As such, this committee is vital to the progress of the student. **The first committee**

meeting will occur in conjunction with the student's first RIP (year 2 for Ph.D. students and G1 for M.D.-Ph.D. students). Although it may be convened earlier, the **second committee meeting will involve presentation of a thesis proposal, to be held no later than 8 months after passing the oral qualifying examination.** The written thesis proposal must be submitted to thesis committee members and the Program Office (Dental School 300A). Committee approval of the thesis proposal by this time is required; failure to meet this deadline will result in revocation of the student's stipend. **Subsequent committee meetings** are to be held at least once per calendar year, including the final year of graduate study. A student must have at least 3 committee meetings prior to thesis defense. However, the thesis committee may recommend more frequent meetings as needed to more closely monitor a student's progress. At least 3 of the 5 thesis committee members must be in attendance at each meeting. If possible, annual committee meetings are most conveniently held immediately after the Research In Progress (RIP) seminar, which each student prepares once per academic year. For this meeting, each student will provide a short written report detailing their progress following the NIH progress report guidelines for noncompeting grant renewals. Special attention will be made to the progress toward publications and the student's individual development plan (IDP). This report needs to be submitted to each committee member no less than 1-week before an oral presentation. A copy of the report signed by each committee member will be returned to the IMP Program Office (Dental School 300A) after each committee meeting.

IV. PROGRAM REQUIREMENTS

The following sections explain the necessary requirements for obtaining a Ph.D. degree from the IMP graduate program. The successful completion of ALL COMPONENTS as described is required to be an IMP student in good standing.

Summary of requirements for obtaining a Ph.D. degree from the IMP program are:

- 1) Obtain a grade of "B" or better in all courses.
- 2) Pass the oral qualifying exam
- 3) Develop a committee-approved thesis proposal.
- 4) Participate in the academic events of the program, which includes seminars, Research in Progress, journal clubs, etc.
- 5) Meet at least annually with a thesis committee.
- 6) Write and successfully defend a thesis dissertation.

A. COURSE REQUIREMENTS

Students must complete 72 hours of credit to graduate.

This is accomplished in two parts:

Part 1: Courses completed in the first academic year progress the students to "Advanced Standing".

Part 2: Once in Advanced Standing, full time students will reach candidacy status at the end of their 3rd year. The "Application for Candidacy form" needs to be filed in the GDBBS office after the 3rd year. The curriculum detailed below satisfies all coursework credit hours and IMP program course requirements in the first two graduate years. However, students may enroll in additional GDBBS courses after the 2nd year in

consultation with their thesis advisor.

IMP Program Curriculum

Semester 1 (Fall)

Basic Biomed & Biol Sciences I	IBS 555	6 credits
Concepts of Immunology	IBS 542	4 credits
Intro to Research	IBS 545	1 credits
Laboratory Rotations	IMP 597r	1 credit
Colloquium in Immunology	IMP 792r	2 credits
Program for Scholarly Integrity*	JPE 600	1 credit

Semester 2 (Spring)

Basic Biomed & Biol Sciences II	IBS 556	6 credits
Virology	IBS 513	5 credits
Intro to Graduate Seminar	IMP 570r	2 credits
Laboratory Rotations	IMP 597r	1 credit

Semester 3 (Fall)

TATTOO	TATT 600	2 credits
Intro to Graduate Seminar	IMP 570r	2 credits
Annual Reviews Immunology	IBS 777r	2 credits
Colloquium in Immunology	IMP 792r	2 credits
Adv. Graduate Research	IBS 699r	4 credits

Semester 4 (Spring)

Intro to Graduate Seminar	IMP 570r	2 credits
Current Topics in Immunology	IBS 747r	5 credits
Adv. Graduate Research	IBS 699r	5 credits
Either of the following courses:		
Stats for Expt'l Biology or	BIOS 505	4 credits
Elective (with permission of DGS)		

Years 3-6 (Fall & Spring)

Prior to submitting Application for Candidacy:

Advanced Graduate Seminar	IMP 790r	2 credits
Adv. Graduate Research	IBS 699r	10 credits

After submitting Application for Candidacy:

Advanced Graduate Seminar	IMP 790r	2 credits
Dissertation Research	IMP 799r	10 credits

Students can be exempted from specific required courses if it is established that equivalent previous course work has been satisfactorily completed. Other electives would then be available for the student to substitute for the exempted required course. This must be approved in writing by the Director of Graduate Studies. Students must register for a

minimum of 9 credit hours each semester.

Electives

Electives are to be decided jointly between student and thesis advisor.

Recommended Electives:

IBS 561	Eukaryotic Chr. Org. & Function
IBS 720	Eukaryotic Gene Org. & Regulation
IBS 504	Intro Prokaryotic Genetics
IBS 538	Design and Analysis of Experiments
IBS 745	Infection & Immunity
IBS 702	Molecular Mech. Signal Transduction
IBS 705	Oncogenes & Tumor Suppressor Genes
IBS 701	Cell Surface Receptors
IBS 524	Cancer Biology
IBS 559	Exp'tal Approaches in Biological Science
IBS 522r	Hypothesis Design & Scientific Writing

M.D.-PH.D. Students

Because M.D.-Ph.D. students have completed two years of course work, they enter the program in Advanced Standing. Their rotations and first IMP course take place in the M2 year (spring). Therefore, they are able to take the qualifying exam in January of the G1 year. The following curriculum fulfills course requirements for the IMP Program.

M.D.-PH.D. Curriculum

M2 Semester (Spring)

3 rotations

Virology	IBS 513	5 credits
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G1 Semester 1 (Fall)

TATTOO 2 credits

Intro to Grad. Seminar	IMP 570r	2 credits
Concepts of Immunology	IBS 542	4 credits
Colloquium in Immunology	IMP 792r	2 credits
Annual Reviews in Immunology	IBS 777R	2 credits
Adv. Graduate Research	IBS 699r	2 credits

G1 Semester 2 (Spring)

Intro to Grad. Seminar	IMP 570r	2 credits
Current Topics in Immunology	IBS 747r	5 credits
Adv. Graduate Research	IBS 699r	2 credits

G2 and subsequent years are required to register for 2 credit hours each semester of Advanced Graduate Seminar (IMP 790r). Also, they are required to take JPE 600, Program for Scholarly Integrity for 1 credit hour. It is only offered in the fall.

IMPORTANT NOTIFICATION FOR ALL IMP STUDENTS

Enrollment in classes outside the GDBBS course offerings, within or outside Emory University, has the high potential to negatively affect a student's performance in the laboratory and in other program-related academic activities. Therefore, students are prohibited from taking courses for credit outside of the GDBBS. In unusual circumstances, exceptions may be made for each course by petitioning the Executive Committee of the IMP program.

GRADE CRITERIA

Students must attain an average grade of B or better in course work each semester. No grade less than B is acceptable in required IMP courses. Any grade below a B will be brought to the attention and discussed by the IMP executive committee for possible academic probation (see next section).

Students with an average grade of less than B will be placed on academic probation, subject to review by the IMP Executive Committee. Students on Academic Probation due to their grade point average have one semester to bring their grade point average above the minimum. The IMP Executive Committee may require the student to retake any course in which a grade of less than B was given. Those who have received an unacceptable grade may not receive any grade less than a B in any subsequent course work. Failure to satisfy these criteria may be grounds for dismissal from the IMP graduate program.

ETHICS

The Laney Graduate School's [Program for Scholarly Integrity](#) (JPE) has been approved by the Laney Graduate School [Executive Council](#). JPE will be required for doctoral students in the biological/biomedical and natural sciences entering the Laney Graduate School in Fall 2012 and later

The Program for Scholarly Integrity is a comprehensive program to educate doctoral students in all disciplines in the ethical pursuit of scholarly research. Training will take place both within interdisciplinary forums and also within the student's graduate program.

There are three elements to the program:

1. A core course in scholarly integrity, supported by the Laney Graduate School in collaboration with the [Emory Center for Ethics](#). *A required core, JPE 600, will be offered in the Fall of 2013.*
2. Program-based training in ethics and the responsible conduct of research, may take place within existing courses. In addition first year and 5th year students are required to participate in faculty-led workshops or journal clubs organized by the director of IMP. These courses currently occur during the month of September on Mondays and Tuesdays during the 4PM MMG and IMP graduate program's seminar time period. Topic session

include Publications/plagiarism, Studies on human subjects, Usage of animals in research, Data management and sharing, Interactions with other scientists, research misconduct/data manipulation, and conflict of interest.

3. A minimum of four topical public workshops, training sessions, or lectures. Please see the following website for a list of workshops.

http://www.gs.emory.edu/resources/professional.php?entity_id=199

For more information on JPE visit:

http://www.gs.emory.edu/about/announcements.php?entity_id=90

TEACHING EXPERIENCE

The Teaching Assistant Training and Teaching Opportunity Program (TATTO) provides teacher training and experience for students in the GDBBS. Completion of the TATTO program is required for all Ph.D. students. This three-day required summer course takes place one week immediately prior to the beginning of the Fall semester.

Teaching Assistantship (TA). All students in the GDBBS are required to serve as a Teaching Assistant for one semester, usually during the second graduate year. Teaching Assistants typically serve as laboratory instructors or discussion leaders for small groups. Teaching Assistants also assist students with problems during scheduled office hours, help prepare handouts and/or laboratory material, and help administer and grade exams. Students assigned to laboratory courses assist in setting up laboratory exercises, and help students understand the theoretical and practical aspects of the exercise.

B. PH.D. QUALIFYING EXAMINATION

An oral qualifying examination is administered to evaluate each student's mastery of scientific concepts before permitting him/her to proceed to full-time doctoral dissertation research. If a student is deemed deficient in the qualifying examination, he/she will have one more opportunity to retake and pass the oral test before the start of the next academic year.

The oral examination will assess each student's comprehensive knowledge of immunology and other pertinent scientific areas. Each student is expected to be fully-versed in immunology and virology (required IMP courses). Topics can also include biochemistry as well as experimental techniques and design. In addition to possessing a broad range of facts and knowledge, the student must demonstrate an ability to synthesize information and display systematic reasoning skills. The oral examination will be administered during the **first weeks of January** (2nd year for Ph.D. students and G1 for M.D./Ph.D. students).

A committee of four IMP faculty members will be assigned to administer the oral examination to each student, with one faculty member or DGS who will serve as chairperson. Thesis advisors **will not** be permitted to attend the examination. The examination will begin with the student providing a five-minute overview of their current research. No slides or overhead transparencies may be used, however, it is permissible to

write/draw material on the dry ink board during the examination. Each member will then be given ten minutes to individually ask questions, followed by a five-minute period when the other members can pose follow-up questions. There will be two rounds of questioning.

Students must obtain the *IMP Oral Qualifying Examination* form to present to their committee at the qualifying examination. This form, which will include the signatures of each committee member, will be returned to Dental School 300A.

C. THESIS PROPOSAL

Two written requirements must be completed by the RIP of the year following completion of the oral examination. The first is a written grant in NIH format describing the students proposed research to and given to each member of the thesis committee and the Director of IMP. The thesis committee members must approve the proposal following a thesis committee meeting at the time of their RIP. **Failure to meet this deadline will jeopardize the student's stipend support.** The student must return the *IMP Thesis Proposal Approval form* with the approval signatures of each committee member, and the signature of the IMP DGS to Dental School 300A. A copy of the thesis proposal will be placed in the student's permanent file.

The grant should adhere to the format and instructions for NIH R01 application. Briefly, the thesis proposal is to be divided into - Specific Aims, Significance, Innovation and Research Approach sections. These sections will include Background and Significance, Preliminary Data, Research Design and Methods, Expected results/Alternatives, Time line and Literature Cited – and formatted as single-spaced, 1 inch margins, Arial font, 11 point size, with a 12-page limit (excluding references). **Proposals that do not adhere to these format requirements will be returned.** Students are encouraged to solicit funded R01 grant applications from faculty as guides for organizing their thesis proposals. The student's thesis advisor is expected to aid in the design and editing of the thesis IMP Student proposal. Thus, the thesis proposal should be written by the student with scientific input and editorial advice from their thesis advisor. The presentation of the thesis proposal signals the start of a collaborative interaction between the student, thesis advisor, and committee to foster the student's independent research program and track its progress.

Each student should prepare an oral slide presentation of his/her thesis proposal. This presentation should provide a brief overview of the field of interest, followed by a presentation of each specific aim, hypotheses, preliminary results, and approach(s) to be used.

The second written requirement is for a 30 page (double space) review/overview of the literature critical to the chosen area of research. This review will constitute the first, introductory chapter of the student thesis. The student and their PI are strongly encouraged to submit this review for publication

V. AWARDING OF PH.D. DEGREE

The format of the thesis must be approved by the thesis committee before you begin writing. A copy of the thesis in final form must be submitted to all members of the Committee before the thesis defense date can be set. The defense must be at least two weeks after the thesis receives the final written copy. The written dissertation must conform to Graduate School Guidelines, but in general will consist of an original account of the background, approach, experiments, and conclusions of your thesis research. Published papers written by the student may be reformatted as chapters in the thesis, but an original introductory chapter (review of the literature) and concluding chapter must be added. The final chapter (~10 pages) should not simply summarize the conclusions made in the dissertation, but provide a scholarly discussion how these conclusions advance the field of study. **The dissertation must indicate which figures and tables are based on data generated by the Ph.D. candidate.**

Publications are important part of the training and success of IMP students. It is expected that a student will have multiple first-author publications accepted in a peer-reviewed journals at the time of their dissertation defense. In extenuating circumstances, a student and their PI may petition the IMP executive committee for permission to defend with less than 2 papers.

The final oral examination (thesis defense) is scheduled by the student with the approval of their thesis committee. The examination is administered by the thesis committee, the thesis advisor serving as chairperson. The examination is public and anyone attending may ask questions. After the public presentation, the audience is dismissed and the thesis committee may further question the candidate. The success of the defense is determined by majority vote of the thesis committee.

Checklist

The following checklist must be completed in order to obtain your Ph.D. degree, otherwise you will need to reapply.

1. File “Application for Candidacy” form after 3rd yr. – once you achieve the 48 minimum credit hours in Advanced Standing.
2. File “Application for Degree” (if filed after the Grad School deadline, a \$25 fee will be due. Check the Grad School calendar to be sure you make the deadline for the semester you intend to graduate).
3. Complete IMP Defense Form **no less than two weeks** before your dissertation defense date. This allows the Program to confirm that you have completed all requirements prior to our defense. This information is also required for the IMP Program Administrator to prepare the Defense Fliers and announce the oral defense on the IMP Listserv.
4. At your defense bring the following forms:
 - a. “Report of Completion of Requirements for Degree” to be signed by ALL thesis committee members and the IMP Program Director or Director of Graduate Studies.

b. A copy of the “Approval Sheet” – this is the face page of the Ph.D. dissertation that each student prepares. The Approval Sheet is to be signed by the advisor and all members of the thesis committee.

5. Please see the Laney Graduate School’s Degree Completion page for instructions and a checklist of documents you will need to submit with your dissertation.

VI. TERMINAL MASTERS DEGREE

In the event that a student chooses not to complete the requirements to complete a Ph.D. he/she may apply for a Masters Degree. Award of the Masters Degree will require that: (1) the student successfully completes 2 years of course work; (2) passes the qualifying examination; and (3) that the student completes a written thesis that is approved by the thesis committee. The student is required to defend the thesis in a final oral examination that will be comprehensive in scope. The examination is public and anyone attending may ask questions. The student is expected to achieve a high degree of expertise in the area of Immunology and Molecular Pathogenesis. However, the scope and depth of the Master’s thesis is expected to be significantly less than that of the Ph.D. dissertation.

VII. OTHER ACTIVITIES

A. PROGRAM SEMINARS, JOURNAL CLUBS

Attendance at weekly IMP Program seminars is a requirement for IMP students. IMP Program seminars given by faculty and invited speakers are held each Tuesday at 4 pm in the Whitehead auditorium (unless otherwise notified via IMP Listserv) throughout the academic year. Arrangements are made for students to meet with guest speakers, and students are encouraged to participate in the scientific discussions. Students are also strongly encouraged to participate in the biweekly student-organized journal club that is also attended by IMP faculty.

B. Research-in-Progress (RIP)

Students are required to participate in the weekly Research-In-Progress meeting (each Wednesday at 4 pm, Whitehead Auditorium), where they present their ongoing research to other IMP predoctoral students, postdoctoral fellows, and faculty.

Guidelines for RIP are as follow:

1. The first RIP for each student will be in the Spring of the 2nd year (G1 for M.D.-Ph.D. students).
2. RIP seminars will begin the first Wednesday of the academic year.
3. Students will select a date for their RIP from blocks of dates allotted for their year
 - i) Students will pick dates most appropriate for attendance by their advisor and thesis committee members.
 - ii) Any changes to the RIP schedule must be arranged by the student with another student within their class year. This change must be made no later than four weeks before their scheduled RIP, have the approval of the DGS, with notification of any change provided to the IMP Program Administrator.
 - iii) Students within their last year of the Program are required to present a RIP. Email announcements for RIP will be sent one day in advance.

Regional and National Scientific Meetings

Students should visit http://www.gs.emory.edu/resources/professional.php?entity_id=23 for guidelines on how to apply for Professional Development Support funds from the Laney Graduate School. In addition to the Laney Graduate School requirements the Graduate Division requires that students present their work at the conference in order to be eligible for funds. Students should read all of the information so they understand the policies and procedures. Students may still apply for additional funds through the Graduate Student Council website (<https://blogs.emory.edu/graduatestudentcouncil/funding-charters>). The IMP Program and GDBBS do not provide travel funds.

When the application for funds has been completed bring it and all required documents to the Division Business Manager (located in the Dental Building, suite 314) by the 15th of each month. Do not take this to the Laney Graduate School. Any application received after the 15th will not be reviewed until the following month. The student must attach a copy of their abstract to the application. Students will be notified about the approval of their application via email by the end of the month in which they submit their application (i.e., students who submit by October 15th will be notified by October 30th). Inform the Division Business Manager if you have not received notification by the first day of the following month (i.e., students who submitted by October 15th and who have not heard by November 1st). Once the application is approved the Division Business Manager will send the student an email with guidelines for submitting their reimbursement upon returning from travel.

Please note the following so that the application for funding is not held up: Students must book airfare through Emory's travel site, which is on the Laney Graduate School site above. The Graduate Division strongly encourages all students to book their travel arrangements early. Please contact the Division Business Manager if a Smartkey is required in order to process the arrangements through Emory's travel site. The student must obtain all required signatures on the application before turning it in to the Division Business Manager. There is a maximum dollar limit per year and per student career. The Laney Graduate School will keep up with the amount that has been awarded. The Division recommends that students keep up with their amount as well. The application will be updated occasionally so students should download a new application from the site each time they apply for funds.

C. IMP LISTSERV

A listserv (ImmSem-L) has been established on the Emory University computer to facilitate distribution of notices of seminars and meetings in immunology. All IMP students and faculty are requested to subscribe.

What is a listserv?

A listserv is a mail distribution program. Messages sent to the listserv are immediately forwarded by E-mail to each of the subscribers. Consequently, one can send a notice to all subscribers as easily as any one. In addition, the listserv facilitates maintaining a current mailing list of people interested in immunology. Each individual is responsible

for deciding where he/she will receive mail and for notifying the listserv administrator of changes.

D. VACATIONS AND LEAVES

The course of study and graduate stipend you receive are based on a 12-month commitment. **GDBBS students are permitted a maximum of two weeks of vacation time each year, excluding holidays.** First year students are required to schedule these absences with the Director of Graduate Studies and the faculty member in whose lab they are working. Unscheduled absences or excessive vacation, holiday or leave time will result in a reduction of your stipend and/or possible suspension from the Program.

E. FINANCIAL SUPPORT

Stipends and tuition fellowships, awarded to students on the basis of academic merit, are intended to cover basic living expenses and tuition. With the exception of special awards, such as the Woodruff Fellowship, stipend levels are set by the GDBBS based upon the availability of funds from Graduate School and university sources. The faculty also encourage and assist students in obtaining individual stipend support from extramural sources, such as federal agencies and private foundations. Students are supported by the GDBBS for an aggregate of three years of training. Additional support will be provided by research advisors, training grants, or other sources. Financial support is provided only to full-time students working toward the Ph.D. degree.

Stipend and tuition fellowships are awarded to allow students to devote full-time to the graduate program and complete the requirements for the Ph.D. degree in as short a time as is consistent with adequate training and research progress. Additional employment is not permitted. Graduate education and research are by necessity largely self-motivated processes, and the distractions of outside employment can interfere with the ability of students to prepare satisfactorily for their future professional careers. If additional income is absolutely necessary, students are encouraged to consider the possibility of low-interest student loans and should consult with the financial aid office.

F. LEAVING THE PROGRAM

The question of what direction a student's career will take following completion of the Ph.D. should arise early and become increasingly important as training progresses. It is never too early to consider career options. Students receiving a Ph.D. usually take a postdoctoral research position to acquire additional techniques and expertise to further prepare for an independent research career. Such postdoctoral training is usually essential for a career in academic research. Some students take permanent positions in industrial or government laboratories immediately after receiving the Ph.D. degree, while others enter additional advanced degree programs such as medical school, or seek careers in administration of science funding or policy, or editorial positions in scientific journals. Career objectives can best be realized through careful planning. All members of the faculty stand ready to advise students on career options, and students are encouraged to seek this advice at any time during their training.

G. INTEROFFICE MAIL

All interoffice mail for first year students will be delivered to the Graduate Division of Biological and Biomedical Sciences, Dental Building, Suite 314. Be sure to check your mailbox regularly. After you have completed your rotations and select an advisor, you will receive a mailbox in that department.

H. UNIVERSITY REQUIREMENTS

Formal University requirements are detailed in the current Bulletin of the Laney Graduate School and the Graduate Student Handbook and are in addition to those detailed in the IMP student guidelines. While every effort has been made to make these guidelines as accurate and complete as possible, University policies may be subject to change without notice, and students must keep themselves up-to-date on these policies.

I. IMP Website

The IMP website can be found at

http://www.biomed.emory.edu/PROGRAM_SITES/IMP/.

Information regarding seminars, program forms, students, faculty and their research can be found on this website.

First Year Students

Student Name	Advisor Name	Email Address	Location
Mener, Amanda	Lamb, Tracey	amanda.mener@emory.edu	314 Dental Building
Chopyk, Daniel	Lamb, Tracey	daniel.chopyk@emory.edu	314 Dental Building
Dale, Gordon	Lamb, Tracey	gordon.dale@emory.edu	314 Dental Building
Ahmed, Nourine	Lamb, Tracey	nourine.ahmed@emory.edu	314 Dental Building
White, Maria	Lamb, Tracey	maria.christine.white@emory.edu	314 Dental Building
Connolly, Sarah	Lamb, Tracey	sarah.suzanne.connolly@emory.edu	314 Dental Building
Mills, Lisa	Lamb, Tracey	lisa.kimberly.mills@emory.edu	314 Dental Building
El-Badry, Elina	Lamb, Tracey	elina.oriana.el-badry@emory.edu	314 Dental Building
Hayward, Sarah	Lamb, Tracey	sarah.louise.hayward@emory.edu	314 Dental Building
McCaffery, Jessica	Lamb, Tracey	jessica.nicole.mccaffery@emory.edu	314 Dental Building
Ford, Bijean	Lamb, Tracey	bijean.dorell.ford@emory.edu	314 Dental Building
McLaughlin, Taryn	Lamb, Tracey	taryn.alissa.mclaughlin@emory.edu	314 Dental Building
Takushi, Sarah	Lamb, Tracey	sarah.takushi@emory.edu	314 Dental Building
Hassan, Mojibade	Lamb, Tracey	mojibade.hassan@emory.edu	314 Dental Building
Wein, Alexander	Kohlmeier, Jacob	alexander.n.wein@emory.edu	314 Dental Building
Mathews, David	Lamb, Tracey	david.v.mathews@gmail.com	314 Dental Building

Second Year Students					
Student Name	Advisor Name	Lab Extension	Email Address	Location	Year
Barham, Morgan	Day, Cheryl	7-4374	morgan.barham@emory.edu	1024 Yerkes	2
Bowen, James	Suthar, Mehul	7-3052	james.r.bowen@emory.edu	2022 Yerkes	2
Chen, Ching-Wen	Ford, Mandy	7-1546	ching-wen.chen@emory.edu	5203 WMB	2
Cho, Alice	Wrarmert, Jens	8-3265	alice.hong.cho@emory.edu	E480 HSRB	2
Cosby, Jennifer	Evavold, Brian	7-1546	jennifer.michelle.cosby@emory.edu	3127 Rollins Rsch Ctr.	2
Dunbar, Paul	Kohlmeier, Jacob	7-7023	paul.r.dunbar@emory.edu	3133 Rollins Rsch Ctr.	2
Feng, Yanjun	Mocarski, Ed	7-9442	yfeng32@emory.edu	429 Dental Building	2
Houser, Madelyn Crawford	Tansey, Malu	7-6126	mcrawf4@emory.edu	SOM Bldg	2
King, Thayer	Lamb, Tracey	2-7883	thayer.king@emory.edu	3105 Rollins Rsch Ctr.	2
Lewis, Christopher	Galipeau, Jacques	8-1779	christopher.lewis@emory.edu	2660 TEC	2
Wolfarth, Alexandra	Neish, Andrew	7-8545	alexandra.wolfarth@emory.edu	105F Whitehead	2

Third Year Students					
Student Name	Advisor Name	Lab Extension	Email Address	Location	Year
Boswell, Madison	Moore, Martin	7-9162	mgboswe@emory.edu	2172 ECC	3
Chea, Lynette	Amara, Rama	7-8765	lchea@emory.edu	3026 Yerkes	3
Choi, Junghwa	Spearman, Paul	7-5642	junghwachoi@emory.edu	2015 Uppergate, RM 504	3
Forrest, Osric	Parkos, Charles	7-8536	oforres@emory.edu	105B Whitehead	3
Joyner, Chester	Galinski, Mary	7-7214	chester.joyner@emory.edu	2012 Yerkes	3
Kudelka, Matthew	Cummings, Richard	7-5962	mkudelk@emory.edu	4001 Rollins Rsch Ctr	3
Laurie, Sonia	Ford, Mandy	7-1546	sonia.laurie@emory.edu	5203 WMB	3
Martinez, Ryan	Evavold, Brian	7-1546	ryan.martinez@emory.edu	3127 Rollins Rsch Ctr.	3
McMaster, Sean	Kohlmeier, Jacob	7-7023	sean.r.mcmaster@emory.edu	3133 Rollins Rsch Ctr.	3
Miller, Lauren	Lamb, Tracey	2-7883	lemill3@emory.edu	3105 Rollins Rsch Ctr.	3
Powell, Domonica	Neish, Andrew	7-8545	d.n.powell@emory.edu	105F Whitehead	3

Fourth Year Students					
Student Name	Advisor Name	Lab Extension	Email Address	Location	Year
Band, Victor	Weiss, David	7-8214	vband@emory.edu	2028 Yerkes	4
Cartwright, Emily	Silvestri, Guido	7-9139	emily.cartwright@emory.edu	2440 Yerkes	4
Cook, Darcie	Tansey, Malu	7-6126	dcook3@emory.edu	SOM Bldg	4
Ende, Zachary	Hunter, Eric	7-9248	zende@emory.edu	1026 Yerkes	4
Espinosa, Jaclyn	Kirk, Allan	7-8380	jaclyn.espinosa@emory.edu	5105 WMB	4
Jones, Andrew	Amara, Rama	7-8765	ajone55@emory.edu	3026 Yerkes	4
Kannarkat, George	Tansey, Malu	7-6126	gkannar@emory.edu	SOM Bldg	4
Kersh, Anna	Evavold, Brian	7-1546	aekersh@emory.edu	3127 Rollins Rsch Ctr.	4
Krummey, Scott	Ford, Mandy	7-1546	skrumme@emory.edu	5203 WMB	4
McGary, Colleen	Paiardini, Mirko	7-9840	cmcgary@emory.edu	2440 Yerkes	4
Ng, Spencer	Galipeau, Jacques	8-1779	sng4@emory.edu	2660 TEC	4
Petersen, Christopher	Waller, Edmund	7-4995	ctpeter@emory.edu	4005C WCI	4
Pinelli, David	Ford, Mandy	7-1546	dpinell@emory.edu	5203 WMB	4
Sia, Jonathan	Rengarajan, Jyothi	7-8174	j.k.sia@emory.edu	2008 Yerkes	4
Tedesco, Dana	Grakoui, Arash	7-5850	dana.tedesco@emory.edu	3020 Yerkes	4

Fifth Year Students					
Student Name	Advisor Name	Lab Extension	Email Address	Location	Year
Andargachew, Rakieb	Evavold, Brian	7-1546	randarg@emory.edu	3127 Rollins Rsch Ctr.	5
Bally, Alexander	Boss, Jeremy	7-5973	abally@emory.edu	3131 Rollins Rsch Ctr	5
Chowdhury, Ankita	Silvestri, Guido	7-9139	ankita.chowdhury@emory.edu	2440 Yerkes	5
Cutler, Christopher	Cummings, Richard	7-5962	cecutile@emory.edu	4001 Rollins Rsch Ctr	5
Geem, Duke	Denning, Timothy	2-8893	dgeem@emory.edu	105R Whitehead	5
Holthausen, David	Jacob, Joshy	7-7919	dholtha@emory.edu	2026 Yerkes	5
Markovitz, Rebecca	Lollar, John (Pete)	7-5569	rmarkov@emory.edu	2172 ECC	5
Mickum, Megan	Cummings, Richard	7-5962	mlhinkl@emory.edu	4001 Rollins Rsch Ctr	5
Prasanphanich, Nina	Cummings, Richard	7-5962	nsaling@emory.edu	4001 Rollins Rsch Ctr	5
Shah, Shardule	Boise, Lawrence	8-3875	shardule.shah@emory.edu	C4012 Winship	5
Wood, Lara	Williams, Ifor	7-8547	lara.megan.beers@emory.edu	105D Whitehead	5

Sixth Year Students					
Student Name	Advisor Name	Lab Extension	Email Address	Location	Year
Frost, Elizabeth	Lukacher, Aron	7-1896	efrost@emory.edu	7307 WMB	6
Gaudette, Brian	Boise, Lawrence	8-3875	bgaudet@emory.edu	C4012 Winship	6
Gavile, Catherine Ann	Boise, Lawrence	8-3875	cgavile@emory.edu	C4012 Winship	6
Mylvaganam, Geetha	Amara, Rama	7-8765	gmylvag@emory.edu	3026 Yerkes	6
Rios, Daniel	Williams, Ifor	7-8547	drios@emory.edu	105D Whitehead	6
Uchiyama, Robin	Gewirtz, Andrew	7-9885	ruchiya@emory.edu	105H Whitehead	6

Seventh Year Students					
Student Name	Advisor Name	Lab Extension	Email Address	Location	Year
Bohannon, Caitlin	Jacob, Joshy	7-7919	cbohann@emory.edu	2026 Yerkes	7
Claiborne, Daniel	Hunter, Eric	7-9248	dclaibo@emory.edu	1026 Yerkes	7
Hood, Jennifer	Evavold, Brian	7-1546	jdhood@emory.edu	3127 Rollins Rsch Ctr.	7
Lee, Jung Hwa	Ahmed, Rafi	7-9301	jlee424@emory.edu	G211 Rollins Research Ctr.	7
Nakahara, Hirotomo	Cooper, Max	7-7259	hnakaha@emory.edu	403C Dental Bldg.	7
Patel, Jaina	Selvaraj, Periasamy	7-5929	jmpate2@emory.edu	7307 WMB	7
Shorter, Shayla	Evavold, Brian	7-1546	sshorte@emory.edu	3127 Rollins Rsch Ctr.	7
Wakeman, Brian	Speck, Samuel	7-7665	bwakema@emory.edu	429 Dental Bldg	7

Eighth Year Students					
Student Name	Advisor Name	Lab Extension	Email Address	Location	Year
Powers, Ryan	Jacob, Joshy	7-7919	rppower@emory.edu	2026 Yerkes	8

IMP Faculty 2014-2015				
Last Name	First Name	Email Address (Primary)	Location	Phone
Ahmed	Rafi	rahmed@emory.edu	G211 Rollins Research Ctr	727-3571
Altman	John	john.altman@emory.edu, jaltman@emory.edu	2023 Yerkes	727-5981
Amara	Rama	rama@rmy.emory.edu	3026 Yerkes	727-8765
Ansari	Aftab	pathaaa@emory.edu	2309 WMB	727-2834
Antia	Rustom	rantia@emory.edu	1107 Rollins Rsch Ctr	727-1015
Archer	David	darcher@emory.edu	Rm 100, 2040 Uppergate Dr.	727-1378
Boise	Lawrence	lboise@emory.edu	C4012 WCI	778-4724
Boss	Jeremy	jmboss@emory.edu	3131 Rollins Rsch Ctr	727-5973
Compans	Richard	rcompan@emory.edu	3001 Rollins Rsch Ctr	727-5947
Cooper	Max	max.cooper@emory.edu, mdcoope@emory.edu	403C Dental Bldg	727-8457
Cummings	Richard	rdcummi@emory.edu	4001 Rollins Rsch Ctr	727-5962
Day	Cheryl	cheryl.day@emory.edu	1024 Yerkes	727-4374
Derdeyn	Cynthia	cynthia.derdeyn@emory.edu, cderdey@emory.edu	1024 Yerkes	727-8594
Evavold	Brian	bevavol@emory.edu	3127 Rollins Rsch Ctr	727-3393
Ford	Mandy	mandy.ford@emory.edu, mshawve@emory.edu	5203 WMB	727-2900
Galinski	Mary	galinski@rmy.emory.edu, mgalins@emory.edu	2012 Yerkes	727-7214
Galipeau	Jacques	jgalipe@emory.edu	5117 WCI	778-1779
Grakoui	Arash	arash.grakoui@emory.edu, agrakou@emory.edu	3020 Yerkes	727-5850
Hunter	Eric	ehunte4@emory.edu	1026 Yerkes	727-8587
Iwakoshi	Neal	niwakos@emory.edu	5335 WMB	727-5170
Jacob	Joshy	jjacob3@emory.edu	2026 Yerkes	727-7919
Kaja	Murali	murali.kaja@emory.edu	420 Dental Building	727-3544
Kalman	Daniel	dkalman@emory.edu	144 Whitehad	712-2326

Katz	Jacqueline	jkatz@cdc.gov	CDC MS G16	639-4966
Kohlmeier	Jacob	jkohlmeier@emory.edu	3133 Rollins Rsch Ctr	727-7023
Lamb	Tracey	tracey.j.lamb@emory.edu	3105 Rollins Rsch Ctr	712-7883
Lammie	Patrick	pjl1@cdc.gov	CDC- Buford Hwy	770-488-4054
Larsen	Christian	clarsen@emory.org	5105 WMB	727-8466
Lee	Frances Eun	f.e.lee@emory.edu	205 Whitehead	712-2970
Lowen	Anice	anice.lowen@emory.edu	3101 Rollins Rsch Ctr	727-4728
McNicholl	Janet	jkm7@cdc.gov	CDC	639-1520
Mead	Jan	jmead@emory.edu	VA Medical Ctr	321-6111
Mocarski	Edward	mocarski@emory.edu	1020 Yerkes	650-603-2581
Moore	Martin	martin.moore@emory.edu, mlmoor2@emory.edu	Stanford Univ.	727-9162
Moreno	Alberto	alberto.moreno@emory.edu,	2010 EVC	727-8611
Neish	Andrew	aneish@emory.edu	105F Whitehead	727-8545
Pacifici	Roberto	roberto.pacifici@emory.edu	1307 WMB	712-8420
Paiardini	Mirko	mirko.paiardini@emory.edu	2440 Yerkes	727-9840
Parkos	Charles	cparkos@emory.edu	105b Whitehead	727-8536
Pulendran	Bali	bpulend@emory.edu	954 Gatewood	727-8945
Rengarajan	Jyothi	jrengar@emory.edu	2008 Yerkes	727-8174
Rota	Paul	prota@cdc.gov	CDC, MS C-22	639-3308
Sanz	Ignacio		247 Whitehead	712-2945
Selvaraj	Periasam y	pselvar@emory.edu	7307 WMB	727-5929
Silvestri	Guido	gsilves@emory.edu	2440 Yerkes	727-9139
Spearman	Paul	paul.spearman@emory.edu	2015 Uppergate, Rm	727-5642

			504	
Speck	Samuel	sspeck@emory.edu	429 Dental Building	727-7665
Steel	John	john.steel@emory.edu	3101 Rollins Rsch Ctr	727-4721
Steinhauer	David	dsteinh@emory.edu	3119 Rollins Rsch Ctr	712-8542
Stephens	David	dstep01@emory.edu	Suite H-153, EUH	712-1643
Tansey	Malu	Malu.tansey@emory.edu	SOM Building	727-6126
Tirouvanziam	Rabindra	tirouvanziam@emory.edu	344 ECC	712-7684
Tyor	William	wtyor@emory.edu	VA Medical Ctr.	778-3444
Waller	Edmund	ewaller@emory.edu	4005C WCI	727-4995
Weiss	David	david.weiss@emory.edu, dweiss8@emory.edu	2028 Yerkes	727-8214
Williams	Ifor	irwilli@emory.edu	105D Whitehead	727-8547
Wrammert	Jens	jwramme@emory.edu	E480 HSRB	778-3265