



Stanford
MEDICINE

Immunology

School of Medicine

2023-2024 Graduate Program Handbook

Updated 3/14/2024



Contents

3	About the Immunology Program
4	Program Leadership and Administration
6	PhD Curriculum <ul style="list-style-type: none">MCTI and CSI Tracks Core CoursesTrack Specific Requirements
9	Program Requirements for All Students <ul style="list-style-type: none">Immunology Startup and First Year Advising<ul style="list-style-type: none">Committee MeetingsIndividual Development PlanQualifying Exam Part I/Qualifying Exam in Part II<ul style="list-style-type: none">Qualifying Exam ChecklistTGR Status<ul style="list-style-type: none">TGR ChecklistFinishing up: The Final Year<ul style="list-style-type: none">Dissertation Defense Checklist
25	Finances <ul style="list-style-type: none">General PolicyDirect DepositFunding OptionsFellowships for Graduate StudentsCharges/FeesTax InformationOther Funding Resources
29	FAQs and Available Resources <ul style="list-style-type: none">Choosing Labs for Rotations and Dissertation ResearchTeaching AssistantshipsThe McDevitt AwardThe Jones AwardThe Service AwardLeadership OpportunitiesProgram Activities/Events
34	Graduate Student Life and Services <ul style="list-style-type: none">Vacation PolicyWellness ResourcesHealth CareStudent HousingCareer AdviceImmunology E-mail Lists
43	Immunology Directory <ul style="list-style-type: none">Graduate StudentsStanford Immunology FacultyGraduate Training Faculty
57	Index <ul style="list-style-type: none">Overview of Program Training

About the Immunology Program

The PhD Program in Immunology is one of [fourteen Stanford Biosciences](#) programs. Our training philosophy is to provide outstanding training and education in immunology and to develop young investigators who will carry out innovative and groundbreaking research. We are committed to creating a diverse and inclusive community where each student thrives. We have a long tradition of collaboration among the immunology laboratories, with an emphasis on the application of cutting-edge approaches to problems in cellular, molecular, computational, and clinical immunology.

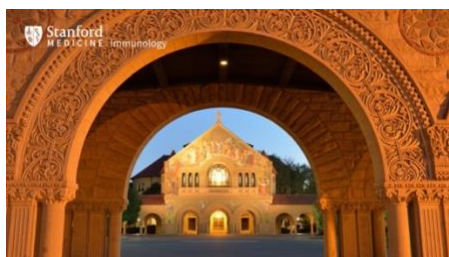
Immunology faculty members are leaders in their respective areas of research, and often incorporate bench to bedside approaches. Our PhD core coursework requirements plus strong electives in related disciplines, provide an integrated curriculum that spans basic and clinical immunology. Students can choose from either the Molecular, Cellular, and Translational Immunology (MCTI) track or the Computational and Systems Immunology (CSI) track. Graduate students in immunology actively participate in seminars, journal clubs, and the annual Stanford Immunology Scientific Conference. Students have access to state-of-the-art research facilities in the immunology laboratories, located in various departments in the School of Medicine, the School of Humanities and Sciences, and the Palo Alto Veteran's Administration Medical Center.

PhD Handbook

This handbook provides information about program-specific policies and procedures. It also provides helpful resources to support you during your academic program.

Because graduate school is an active partnership between the student and the program, the program expects students to familiarize themselves with this information and to seek clarification as needed. **Graduate students are expected to proactively seek academic and professional guidance and take responsibility for informing themselves of policies and degree requirements for their graduate program.**

Students are held to the degree requirements included in the **Stanford Graduate Academic Policies and Procedures** (GAP: <https://gap.stanford.edu/handbooks/gap-handbook/chapter-4/subchapter-5/page-4-5-1>) and the Immunology program handbook published in the year of matriculation; program practices and procedures outlined in the handbook may change year to year.



Program Leadership and Administration

Welcome to Stanford University!

We are excited that you have chosen Stanford University's PhD Program in Immunology for your PhD studies. We hope this graduate handbook will provide you with information you need as you progress toward your PhD degree in Immunology.

Stanford Immunology is home to faculty, students, postdocs, and staff who work together to produce internationally recognized research in immunology. The long tradition of collaboration among the immunology laboratories at Stanford fosters productive interdisciplinary research, with an emphasis on the application of molecular approaches to problems in cellular, translational, and clinical immunology. Faculty research interests include both basic science research and bench-to-bedside approaches, as well as computational and systems immunology. Graduate students and postdoctoral scholars receive high caliber, state-of-the-art training through their participation in research, teaching, seminars, journal clubs, and the annual Stanford Immunology Scientific Conference.

Our congratulations and warm welcome!

Sincerely,



Olivia Martinez, PhD
Director
Stanford Immunology
Graduate Program, Immunology IDP
omm@stanford.edu

Graduate Program Committee

The Graduate Program Committee is responsible for the selection, admission, education and degree achievement of all pre-doctoral students in Immunology at Stanford. The Committee also sets programmatic policies for the graduate program.

- Olivia Martinez, *Director of Stanford Immunology, Chair, Graduate Program Committee, Surgery*
- Nima Aghaeepour, *Chair, Computational and Systems Immunology Committee, Anesthesiology, Perioperative and Pain Medicine (Adult MSD), of Pediatrics (Neonatology)*
- Sean Bendall, *Chair, Admissions Subcommittee, Pathology*
- Chris Garcia, *Molecular & Cellular Physiology, and of Structural Biology*
- Sheri Krams, *Surgery*
- Jonathan Maltzman, *Nephrology*
- Bali Pulendran, *Microbiology and Immunology*
- Adonis Rubio, *Student Committee Member*

Graduate Program Administration

Immunology Program Office:

Biomedical Innovations Building (BMI)
240 Pasteur Drive
Palo Alto, CA 94304
M/S: 07-600

Name	Title	Location	Email	Phone
Lina Hansen	Student Services Officer II	BMI	lhansen@stanford.edu	650-736-1980
Rita Robinson	Administrative Associate III	BMI	ritar2@stanford.edu	650-725-9888
Torye Nguyen	Student Services Specialist	BMI	toryen@stanford.edu	650-498-0841

PhD Curriculum

Candidates for PhD degrees at Stanford must satisfactorily complete a program of study that includes **135 units of graduate course work and research**. At least **3 units must be taken with each of four different Stanford faculty members**. Dr. Martinez will discuss and approve your selection of courses in your quarterly advising meetings. Study lists are submitted quarterly through Student AXESS with a total **10 units of coursework**. Study lists containing less than 9 units do not meet the university's minimum degree progress or visa requirements for international students. Study lists containing more than 10 units will trigger a larger student tuition bill, so please remember to register for 10 units only by the University deadline. There are serious financial consequences to missing these deadlines (a \$200 late fee, losing the health care subsidy, etc.). Please note there are 2 important deadlines to keep in mind; **the preliminary study list deadline and the final study list deadline**.

Graduate students (including MD/PhD students in the graduate student phase of their training) must take all required courses for a letter grade. A letter grade of "C" is considered a failing grade. The University requires that you **maintain a 3.0 GPA** in order to remain enrolled at Stanford University.

Outline of Program Requirements

Courses and Seminars

Each student will also discuss scheduling courses and rotations with the Graduate Program Chair, Dr. Olivia Martinez, during their quarterly advising meetings. **All MCTI and CSI Track students must be enrolled in exactly 10 units during Autumn, Winter, Spring, and Summer quarters until reaching Terminal Graduate Residence (TGR) status in the Spring or Summer quarter of their fourth year.**

MSTP students should register for more than 10 units. While you are in the MED CAREER (first 12 quarters), register for 9 - 26 units each quarter (except Autumn quarter M1 and M2 when you should register for 9 - 39 units), including summers. For the three GRAD CAREER quarters (quarters 13 -15; Autumn, Winter, Spring of G2), register for 11 - 18 units. This is the full-time graduate unit range. Please note, during GRAD billing, you must register for at least 11 units, otherwise you will not be considered full-time GRAD. This will affect your future status

Students are required to pass all courses in which they are enrolled; required and elective courses must be taken for a letter grade. Students must earn a grade of 'B-' or better in all courses applicable to the degree that are taken for a letter grade. Satisfactory completion of each year's general and track specific requirements listed below is required. (Note that the units for some courses can be flexible in order to help students maintain exactly 10 units per quarter. Students should discuss with Dr. Martinez if they have difficulty coming up with a study list with the appropriate number of units.)

In the first-year advising meeting, Dr. Martinez will determine if the student's undergraduate training in biology, immunology and cognate disciplines are equivalent to the required undergraduate Biology major curriculum at Stanford. If there are gaps in the undergraduate training, the first-year student and Dr. Martinez will design a specific first year curriculum that includes [advanced undergraduate courses](#) as needed.

A [Course Substitution Form](#) should be submitted by a graduate student who, with appropriate circumstances and approval, wishes to substitute a course for one of the required courses in the Stanford Immunology PhD program

MCTI and CSI Tracks Core Courses

All students in the two tracks, **Molecular, Cellular, and Translational Immunology (MCTI)** and **Computational and Systems Immunology (CSI)** are required to enroll in the following core courses:

Course List		Units
BIOS 200	Foundations in Experimental Biology	5
BIO 141	Biostatistics (STATS 141)	5
IMMUNOL 201	Advanced Immunology I	3
IMMUNOL 202	Advanced Immunology II	3
IMMUNOL 258	Ethics, Science, and Society	1
IMMUNOL 290	Teaching in Immunology	1-15
IMMUNOL 305	Immunology Journal Club	1
IMMUNOL 311	Seminar in Immunology	1
IMMUNOL 399	Graduate Research	1-15
MED 255	The Responsible Conduct of Research	1

Candidates for Ph.D. degrees at Stanford must satisfactorily complete a program of study that includes 135 units of graduate course work and research. At least 3 units must be taken with each of four different Stanford faculty members. **Students in the MCTI track are expected to complete all their core course requirements by the end of their second year; students in the CSI track should complete their core course work by the end of the third year.**

Ethics/Responsible Conduct of Research Courses

All students are required by the NSF and NIH to take [MED 255](#) The Responsible Conduct of Research. This course must be completed by the end of the first year and is offered in all four quarters.

In the third through fifth year, students are required to take [IMMUNOL 258](#) Ethics, Science, and Society, a refresher ethics course that is required by NIH and is offered every other year.

Track Specific Requirements

In addition to the general requirements listed above, students must also complete requirements within their track. **Written petitions for exemptions to core curriculum and lab rotation requirements are considered only in the first year by the advising committee and the chair of the Graduate Program committee. Approval is contingent upon special circumstances and is not routinely granted.**

Molecular, Cellular, and Translational Immunology

In addition to the core courses listed above, MCTI first-year students are required to take the following courses in their first year for a letter grade:

Course List		
		Units
IMMUNOL 203	Advanced Immunology III	3
Take one of the following courses:		
BIO 214	Advanced Cell Biology	4
IMMUNOL 206	Introduction to Applied Computational Tools in Immunology	2
MI 210	Advanced Pathogenesis of Bacteria, Viruses, and Eukaryotic Parasites	4

Electives:

One elective (Examples of electives are below. Other courses may be considered to fulfill the elective requirement but approval of the Director must be obtained before enrolling)

Course List		
		Units
CBIO 240	Molecular and Genetic Basis of Cancer	4
CSB 210	Cell Signaling	4
DBIO 210	Developmental Biology	4
IMMUNOL 223	Biology & Disease of Hematopoiesis	3
IMMUNOL 275	Tumor Immunology	3
S BIO 241	Biological Macromolecules	5

Computational and Systems Immunology

In addition to the core courses listed above, the CSI curriculum trains students to be computational and experimental scientists, who are expected to identify important problems in immunology and to devise integrated computational/ experimental plans for addressing them.

CSI Core (Required):

Students in the CSI track are required to take the following core courses in their first and second years, unless demonstrated by proficiency or coursework. For example, a student, with proficiency in concepts taught in CS 106A, may petition to be exempt from this course and go on to take CS 106B. Petitions to be granted an exemption from the courses CS 106A, CS 109, and CS 161 **must be approved by one of the Co-Chairs of the CSI Track and the Director of Immunology in advance; exemptions cannot be granted retroactively.**

Course List		
		Units
BIOMEDIN 214	Representations and Algorithms for Computational Molecular Biology (BIOMEDIN 214, CS 274, GENE 214)	3-4
CS 106A	Programming Methodology	3-5
CS 106B	Programming Abstractions	3-5

CS 109	Introduction to Probability for Computer Scientists	3-5
CS 161	Design and Analysis of Algorithms	3-5
IMMUNOL 207	Essential Methods in Computational and Systems Immunology	3
IMMUNOL 312	Emerging Topics in Computational Immunology	1

CSI Electives:

Two electives (Examples of electives are below, but are not limited to those listed below). If a student chooses to do an elective that is not in the list below, they must ensure it is primarily a computational course.

Course List		Units
BIOMEDIN 212	Introduction to Biomedical Informatics Research Methodology	3-5
BIOMEDIN 217	Translational Bioinformatics	4
BIOMEDIN 260	Computational Methods for Biomedical Image Analysis and Interpretation	3-4
CME 206	Introduction to Numerical Methods for Engineering	3
CME 263	Introduction to Linear Dynamical Systems	3
CME 309	Randomized Algorithms and Probabilistic Analysis	3
CME 364A	Convex Optimization I	3
CME 372	Applied Fourier Analysis and Elements of Modern Signal Processing	3
EE 276	Information Theory	3
EE 278	Introduction to Statistical Signal Processing	3
STATS 116	Theory of Probability	4
STATS 202	Data Mining and Analysis	3
STATS 216	Introduction to Statistical Learning	3
STATS 217	Introduction to Stochastic Processes I	3

In order to build their computational skill sets, CSI students may be advised to take additional courses by their thesis committees.

To see a description of the specific courses, please go to the *Explore Course* website and search for the course you are interested in: <http://explorecourses.stanford.edu/CourseSearch/> or visit the PhD in Immunology degree requirements page: <https://bulletin.stanford.edu/programs/IMMUN-PHD>

Program Requirements for All Students

Following is a list of milestones and forms that PhD students are expected to complete, as well as their corresponding deadline. All forms and papers must be turned into the Immunology Program Office.

First Year	
Item	Due by Quarter
First Year Advising Committee Form	
Student Lab Rotation Evaluation Form	Autumn/Winter/Spring
Faculty Lab Rotation Evaluation Form	Autumn/Winter/Spring
NSF Application ¹	Autumn
Teaching Evaluation Form	
First Year Progress Report	
Adviser/Lab Decision	Spring/Summer
IDP Meeting and IDP Form, IDP GST Scheduling & Confirmation Guide	Summer
¹ Required for eligible students	
Second Year	
Item	Due by Quarter
NSF Application ¹	Autumn
Teaching Evaluation Form	
Dissertation Thesis Proposal paper	
Qualifying Exam, Part II/Dissertation Thesis Proposal Form & Presentation	
Annual Thesis Committee Meeting Form	
Application for Candidacy Form	
IDP Meeting and IDP Form, IDP GST Scheduling & Confirmation Guide	Summer
Teaching Assistantships in Two Courses (typically Yrs 2-5)	
¹ Required for eligible students	
Third Year	
Item	Due by Quarter
Teaching Evaluation Form	
Annual Thesis Committee Meeting Form	Once
IDP Meeting and IDP Form, IDP GST Scheduling & Confirmation Guide	Summer
Present at SIP (complete pre-TGR)	At least Once
Poster Presentation at Scientific Retreat (typically Yrs 3-5)	Fall
Fourth Year	
Item	Due by Quarter
Request for TGR Status via Acess	135 units and all requirements are met
Doctoral Dissertation Reading Committee Form	With TGR form
Annual Thesis Committee Meeting Form	Twice
IDP Meeting and IDP Form, IDP GST Scheduling & Confirmation Guide	Summer

Oral Presentation at Scientific Retreat (typically Yrs 4-5)	Fall
Fifth Year	
Item	Due by Quarter
Annual Thesis Committee Meeting Form	Twice
Oral Examination Form	
IDP Meeting and IDP Form , IDP GST Scheduling & Confirmation Guide	Summer
Graduate Student Graduation Quarter via Axess	
First Author Paper Submission	
Thesis Defenses	
Item	Due by Quarter
Draft of Dissertation	
Petition to Defend	
Doctoral Dissertation Agreement Form	
Reading Committee Signature Page	

Immunology Startup and First Year Advising

Since students enter with differing backgrounds, each student is assisted by the first-year adviser in selecting courses and lab rotations in the first year and in choosing a lab for the dissertation research. In addition, the Immunology Startup, a three-day introduction to immunology in early September, exposes incoming Immunology PhD students to a variety of techniques and concepts, resources and facilities, and in-depth discussions with faculty.

All students must be enrolled in exactly 10 units during Autumn, Winter, Spring, and Summer quarters until reaching Terminal Graduate Residence (TGR) status in the spring or summer quarter of their fourth year. Students are required to pass all courses in which they are enrolled. Students must earn a grade of 'B-' or better in all courses applicable to the degree and all courses required for the degree must be taken for a letter grade. Satisfactory completion of each year's general and track specific requirements listed below is required. During the first year, degree progress is monitored closely by the first-year adviser, Dr. Olivia Martinez, in quarterly meetings and by the Stanford Graduate Program Committee in a final advising session in June.

First-year students are required to complete three lab rotations in at least two immunology labs. Faculty who are Academic Council members are eligible to serve as primary advisors to graduate students. In the Spring Quarter, two mini-rotations of six weeks each may be arranged. After joining a lab, students are required to meet with their thesis adviser within 30 days to complete the Individual Development Plan (IDP). Students continue to complete the IDP annually.

A specific program of study for each student is developed individually with the first-year adviser, Dr. Olivia Martinez.

Note: The Advisor-Advisee relationship is an important component of the graduate school experience.

When you have chosen a lab, you and your PI have access to resources to align your expectations and discuss future plans. Students are encouraged to meet weekly with their advisor regarding their thesis project and **at least** annually regarding career development. The Office of the Vice Provost for Graduate Education shares best practices for Advising & Mentoring relationships: <https://vpge.stanford.edu/academic-guidance/advising-mentoring>

Committee Meetings

Graduate students are required by the University, Biosciences, and Immunology Program to hold annual committee meetings. Usually, this committee consists of 3-4 faculty members selected by you in discussion with your PhD advisor. At least two of the committee members (including your advisor), must be members of the Immunology program faculty. Use these meetings to take a step back from day-to-day research, discuss your ideas, and receive feedback.

- 3rd year: meet with your thesis committee
- 4th and 5th years: will need to have committee meetings twice a year until degree completion
- 5th years and beyond: you may request a faculty member of the Graduate Program Committee to be present at these committee meetings

Best practices for arranging committee meetings are:

- Request a meeting at least 1-2 months in advance
- Send a Doodle calendar request or similar to your committee members
- **The University Registrar requires graduate students to meet with their thesis committees as a group and not one-on-one.** This best practice avoids miscommunication.
- Annual meetings should be held **regardless of obstacles in research progress.**

The Annual Committee Meeting Form should be filled out and signed by all of the committee members in attendance at each meeting (<https://med.stanford.edu/immunol/phd-program/resources.html>). Students should send the completed and signed form to Lina Hansen lhansen@stanford.edu. Dates of committee meetings for all immunology graduate students are reported to the Registrar.

Students in the 2021/2022 cohort and going forward will have their Annual Thesis Committee Meetings tracked as individual milestones on their transcript. If the annual committee meeting requirement is not met, it will show as Not Completed on their transcript resulting in them not being able to defend and submit their dissertation, as all milestones must be completed before the registrar will approve a Petition to Graduate. Without an approved Petition to Graduate, the Student eThesis Center will not be accessible.

Individual Development Plan

For the seventh year in a row, 99% of students completed their Individual Development Plan (IDP); thank you for making this past year's program a success. The NIH requires a statement on the use of IDPs in annual progress reports, and the Committee on Graduate Admissions and Policy (CGAP) requires all Biosciences PhD candidates to complete and discuss an Individual Development Plan at least once annually. Students and advisors share responsibility for completing this requirement by August 1 each year; failure to do so results

in a “hold” on student registration and may jeopardize Stanford’s competitiveness for NIH funding. If a hold is placed on your student account, you will not be able to register until you have contacted Ross Colvin larkspur@stanford.edu with an update on when the IDP meeting was held, is planned to take place or a good reason for why it has not taken place yet. He is the sole person that can lift the hold.

As a reminder, the IDP process and timeline to complete your IDP forms and conversations are as follows:

- 1) SCHEDULE your annual IDP meeting with your thesis advisor before June 1.
- 2) MEET with your advisor by August 1 to discuss the IDP, review progress and set goals. While the entire form should be completed by you and reviewed by your advisor, you and s/he might choose to focus your conversation on the sections that are most pressing or relevant for your needs.
- 3) VERIFY by August 1 that the annual IDP meeting occurred. You will enter the meeting date in the GST system ([see instructions here](#)); your thesis advisor will be prompted by email to confirm the meeting.

There are three different IDP forms, tailored for students at different stages. You can find all necessary IDP information and forms on the Biosciences website: <https://biosciences.stanford.edu/current/idp/>.

Qualifying Exam Part I

During the Summer Quarter of year one, first-year immunology graduate students are required to give a presentation on one of their three rotations to the Immunology Graduate Program committee (Qualifying Examination Process, Part I). This usually takes place during the latter part of June.

Qualifying Exam Part II

In Autumn Quarter of the second year, students focus on preparing for Part II of the Qualifying Examination Process, the general oral examination and the Ph.D. thesis dissertation proposal. The Qualifying Exam Part II is usually completed by December 17 of year 2. The student is required to pass the oral examination and write a thesis dissertation proposal which is presented to and evaluated by a qualifying examination committee composed of three faculty members, two of whom must be from the Immunology program faculty and the third faculty member may be from a department outside the program. The PhD adviser is not present for Part II, but is required to submit an evaluation and grade for the PhD thesis dissertation written proposal. Upon successful completion of Part II, the student files a petition for PhD candidacy and form their reading dissertation committee.

Dissertation Proposal Committee Requirements: The members of the thesis committee are chosen by the student and the PhD advisor. The Qualifying Exam Committee is composed of at least two, and usually three, members of Immunology Program faculty. The thesis advisor is part of the committee but is not present for the qualifying examination. The student should work with the PhD advisor to identify a chair of the committee in advance of the defense. The chair will be responsible for preparing a brief summary of the exam and providing this to the program administrator, the candidate and the PhD advisor after the exam is completed.

Guidelines for the Proposal Paper: For the written thesis proposal, the student will follow the instructions for an NIH research grant in terms of format, except that he/she may have limited preliminary results. The written proposal should be 18 pages double-spaced, instead of the standard 13-page single-spaced NIH (RO1, PHS form 398) proposal. All tables, graphs, figures, diagrams, and charts must be included in the 18-page limit. Failure to follow the NIH format, including exceeding font size (Arial font, 11 pitch), 0.5" margins, or page limits may result in the Committee's decision to have the student rewrite the thesis proposal before giving a passing grade. It is strongly recommended that the student work closely with the Committee, particularly the Thesis Advisor, in preparing a hypothesis-driven thesis proposal. Students should review successful NIH grants prepared by Faculty members as a template. These are available through the Immunology Program Administrator. The content for the thesis proposal should include the following:

- *Specific Aims.* List the broad, long-term objectives and what the specific research proposed is intended to accomplish. What is the problem you are trying to solve? Why is it important? Include the hypothesis. The hypothesis answers the questions: what is it that you intend to do? And why is the work important? The single, biggest mistake made in grant applications and thesis proposals is failure to succinctly state a testable hypothesis. PHS 398, Part I. Section 5.5.2: "State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s) involved. List succinctly the specific objectives of the research proposed, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a critical barrier to progress in the field, or develop new technology."
- *Research Strategy.* The Research Strategy is composed of three distinct sections: Significance, Innovation, and Approach. Note that the Approach section also includes preliminary studies. What is the current scientific background of the thesis project? The existing body of knowledge in the relevant areas of the thesis project should be critically evaluated. What gaps are there in this body of knowledge? Where does your thesis project fall? State concisely the importance of the research described by relating the specific aims to the broad long-term objectives. The Research Strategy should be organized in the specified order with appropriate headings: Significance, Innovation, and Approach. The following is excerpted from PHS 398, Section 5.5.3:
 - a) *Significance*
 - Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
 - Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.
 - Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.
 - b) *Innovation*
 - Explain how the application challenges and seeks to shift current research or clinical practice paradigms.
 - Describe any novel theoretical concepts, approaches or methodologies, instrumentation or intervention(s) to be developed or used, and any advantage over existing methodologies, instrumentation or intervention(s).

- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation or interventions.

c) *Approach*

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Unless addressed separately in the Resource Sharing Plan, include how the data will be collected, analyzed, and interpreted as well as any resource sharing plans as appropriate.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work.
- Point out any procedures, situations, or materials that may be hazardous to personnel and precautions to be exercised. A full discussion on the use of Select Agents should appear in 5.5.11 below.
- If research on Human Embryonic Stem Cells (hESCs) is proposed but an approved cell line from the NIH hESC Registry cannot be identified, provide a strong justification for why an appropriate cell line cannot be chosen from the Registry at this time.

If the qualifying exam proposal has multiple Specific Aims, then the applicant may address Significance, Innovation and Approach for each Specific Aim individually, or may address Significance, Innovation and Approach for all of the Specific Aims collectively.

The student should include any preliminary studies that will help establish the appropriateness and feasibility of the thesis project. The student is expected to make use of the faculty advisor's preliminary results if he/she has not already obtained a significant amount of preliminary results. In light of the early deadline for the General Orals and Qualifying Examination, Dec 17th, a student's thesis project may change several months after the dissertation proposal is defended. If such a change occurs, the student should inform his/her Dissertation Proposal Committee by submitting a short, three-page written report describing the necessary changes. If no changes are necessary, then the student should proceed in a normal fashion, e.g., scheduling the annual dissertation committee meeting a year later.

- Human Subjects.* Provide sufficient information for any human subject studies.
- Vertebrate Animals.* Provide sufficient information for any animal subject studies.
- Literature Cited.* Literature citations should be listed at the end of the proposal. Each literature citation must include the title, names of all authors, book or journal, volume number, page numbers, and year of publication.

Oral Exam: The Oral Examination is intended to test the student on the proposed research area but may also include an examination on general immunology knowledge. The format of the Oral Examination typically begins with a presentation of the thesis proposal. Students should prepare a presentation of 45-50 minutes on the proposed research focusing on experimental design, data interpretation and potential problems. Preliminary data should be included. Faculty will question the student about the work, its interpretation, the methods,

and background questions relevant to the proposal. **The thesis mentor is not allowed to be present at the Oral Examination.**

After the Oral Examination is completed the designated Chair of the Dissertation Proposal Committee and the thesis advisor will both provide a written evaluation (paragraph) and grade of the dissertation proposal. The [Qualifying Exam Part II/Dissertation Thesis Proposal Form](#) should be signed by all of the committee members and is available on <http://med.stanford.edu/immunol/phd-program/resources.html>. The evaluation will describe the strengths and weakness of the proposal. The letter grade will be entered into the university's system and appear on the student's transcript. A student receiving a grade lower than B, may be asked to rewrite the dissertation proposal. If the Dissertation Proposal Committee does not give a passing grade to the student's rewritten version, then the Graduate Program Committee will meet to consider whether extenuating circumstances warrant permitting the student to be examined a second time. The second opportunity to take the Qualifying Exam should occur before the student's third year begins. If so, the Graduate Program Committee will permit a second examination, or if he or she is given such an opportunity and fails the second examination, he or she will be dismissed from the Program. The dismissal shall be made in writing.

Advancing to Candidacy

After successful completion of the Qualifying Examination, the student should apply for admission to PhD candidacy using the Application for Candidacy form (https://drive.google.com/file/d/17Db_0Y2pFRuY42nHY4z0AWYgJyoEVqtL/view).

Admission to PhD candidacy means that the student has completed the Qualifying Examination and most of the course requirements of the Immunology Program and is now ready to begin thesis research leading to a dissertation and University oral exam. The Application for Candidacy for Doctoral Degree form must be filled out and submitted to the Program Administrator by the end of the spring quarter of the second year; timely submission of graduate paperwork is required for certifying satisfactory degree progress for many fellowships, in particular the NSF and the SGF.

The schedule will be adjusted to fit the needs of MSTP and MD/PhD students, or students who transfer from another program.

QUALIFYING EXAM Part II CHECKLIST

- _____ Student joins a Lab
- _____ Student forms and confirms Qualls Committee
- _____ Program Director and Administrator are notified of Qualls Committee members
- _____ Student sets a date for qualifying exam that is usually before Dec. 17 of Year 2.
- _____ Student notifies Program Administrator of exam date and time
- _____ Student reserves a room for the exam.
 - Reserve the room for 2.5-3 hours

- Alway, CCSR, LKSC, or MSOB: <http://med.stanford.edu/irt/classrooms/features>
- Clark Center: <https://biox.stanford.edu/about/building-services/room-scheduling>
- BMI: Contact a Program Administrator
- Contact the Program Administrators if assistance is needed
- If Stanford is enforcing restrictions for in-person gatherings to limit the spread of COVID-19, schedule your exam virtually via Zoom.

- _____ Student notifies Qualls Committee and Program Administrators of exam location
- _____ No later than 3 weeks prior to the exam, student confirms the Qualls Chair and notifies the Program Administrators
- _____ 2 weeks prior to the scheduled exam date, student emails the written proposal to the Qualls Committee and Program Administrators. Failing to email this document 2 weeks in advance may result in committee opting to reschedule the exam.
- _____ On exam day: Student brings the following forms to the exam in order to easily obtain the required signatures: Immunology Program Qualifying Exam Form, Application for Candidacy, Doctoral Dissertation Reading Committee Form, and Petition for Non-Academic Council Doctoral Committee Members Form (if applicable)
- _____ Within one week of the Qualifying Exam date: Student submits all completed and signed forms to the Program Administrator, who will record the milestones in [Axess](#).

TGR Status

Terminal Graduate Registration (TGR) allows students to register at a significantly reduced tuition rate while they work on the dissertation or thesis, or department project.

Eligibility and Timing

To be eligible for TGR, you must have:

1. Completed at least 135 units prior to starting the TGR quarter, and completed all residency requirements for both your active and completed degree programs
2. Completed all course requirements, including the courses that you listed on your Application for Doctoral Candidacy (or had any changes approved by the Program Chair)
3. Submitted your Doctoral Dissertation Reading Committee (DDRC) form

The timing for each student may be different; as such, it's important that you track your own progress and keep tabs on how many units you have/will complete, and when you will be eligible for TGR. The Program will do its best to send reminders, but it's ultimately each student's responsibility to know where s/he stands with regard to degree progress. This includes keeping track of GNRs (Grades Not Received) and working with your advisor and Program Administrators to get those cleared. GNRs will prevent your TGR status from being approved by the Registrar's Office, so it is important to address them sooner rather than later.

Withdrawing from a course, receiving No Credit for a course, or having a grade not reported by an instructor will all affect your Cumulative Unit Count, and your eligibility for TGR status. As such, it is important that you review your own transcript. The typical student will near TGR status in the 4th year of study. Assuming a student successfully completes 10 units per

quarter, s/he will have completed 135 units at the end of Fall quarter of the 4th year. This leaves just 5 more units necessary to reach TGR status.

- A student in this situation may consider requesting Reduced Tuition from the Registrar; this status allows a student to register for 3-7 units for the one quarter prior to being on TGR status.
- This is not an option for students on an F-1 or J-1 visa, and those who may have existing student loans, as a drop to below normal full-time registration status may be problematic.

Please note: While it may seem like a good idea to register for more than 10 units a quarter in order to reach TGR status sooner, doing so will increase tuition costs by about \$5,000 per quarter, and most funding sources (Training Grant, NSF, SGF) won't cover that level of tuition spending.

MSTP Students:

You do not go "TGR." Terminal Graduate Registration (TGR) is for PhD-only students. TGR is a registration classification and there is a special course for PhD-only students. TMR is for MD students and is a reduced tuition rate. MD students classified as MD RR can register for courses; PhD students cannot take coursework when registered TGR.

It is rare for MSTP students to take a "grad" or "writing" quarter. Stanford has a quarter with reduced tuition sometimes called a "grad" or thesis "writing" quarter. MD-PhD students cannot take a grad/writing quarter unless they are completely done with both the PhD and the

MD degrees. This is rare and if you are planning residency as a next step, it would conflict with the start of your residency (usually June.)

TGR CHECKLIST

How to Apply for TGR Status

Deadline: The petition for TGR status must be submitted to the Registrar's office **prior to the start of the quarter in which you would like to be under that status** (e.g., if you want to be TGR in Spring, the form must be submitted before the end of Winter quarter).

- _____ Complete at least 135 units prior to the term in which you will be on TGR status. Look at your transcript; your Earned Unit Cumulative Total at the very end of the transcript must be at least 135 and the transcript should not have any GNRs
- _____ Complete all Immunology course requirements (Core Requirements, Journal Club, TAships, advanced courses, and area requirements and statistics as applicable).
- _____ Complete the TGR Request form on Stanford eForms. Log in to [Axess](#), click on the Student tab, and choose "Student eForms" from the Quick Links menu. Click on "Available Forms" to find student forms.
- _____ Sign the form, have your advisor sign the form, and notify the program administrators at least two weeks prior to the start of the quarter in which you would like to start TGR status.
- _____ After a decision is made on your request, you'll get instructions from the Registrar. We don't receive notification of this status, so please let us know when you've been approved
- _____ If you do not receive an email, the Registrar did not receive your form and you are not on TGR status. You should follow up immediately, as this could mean that you

will be charged full tuition rather than TGR tuition, which could result in an outstanding balance on your account.

Registering Under TGR Status

Once TGR status has been approved:

- _____ Register for Immunol 802 with your mentor for 0 units
- _____ Do not register for research units again. You will always register for Immunol 802 for 0 units.
- _____ You can take up to 3 units of coursework without additional charge. If you would like to take more than 3 units of coursework, you will need to ask your mentor to cover the overage in tuition fees.
- _____ If you do end up taking a class, you will still need to enroll for TGR (Immunol 802) each quarter.

Finishing up: The Final Year

Please become familiar with all of the dates and deadlines regarding your oral defense, submitting your dissertation, and submitting required forms and paperwork. Under no circumstances are extensions granted, and missing deadlines can mean that you don't graduate as planned.

The Final Countdown

There are three administrative hurdles to finishing your degree:

1. Defending your thesis
2. Submitting your dissertation
3. Applying to graduate

With some advanced planning, it is possible for all three steps to be completed in one quarter. Some students make an arrangement with their mentor to take the quarter after their defense to complete work on, and submit, their thesis. This is called a **“Graduation Quarter.”** During Graduation Quarter your tuition can be reduced to \$150 for one quarter only, which leaves your mentor only covering your stipend and health insurance. You must have completed your thesis defense in order to qualify for the Graduation Quarter.

- The form to enroll in this status must be submitted before the first day of classes of the intended Graduation Quarter (but please don't wait until the last minute to get the required signatures)
- Complete the Graduation Quarter Petition form on Stanford eForms. Log in to [Axess](#), click on the Student tab, and choose “Student eForms” from the Quick Links menu. Click on “Available Forms” to find student forms.

First Author Paper Submission

By the fourth or fifth year, graduate students are expected to submit a first author paper for publication. This milestone must be completed before defending a Ph.D. dissertation.

Doctoral Dissertation

Before embarking on the dissertation defense process, the graduate student must submit a [Petition to Defend](#) to the Director of the Immunology Graduate Program and meet with the Director. Important milestones and degree requirements must be met before proceeding to the oral examination including submission or publication of a first author manuscript. A substantial draft of the dissertation must be turned in to the student's oral examination committee at least 2 weeks before the oral exam is scheduled to take place. Prior to the PhD orals defense, an orals chair is chosen to lead the orals committee, which is a distinct committee, but the basic membership is identical to that of the dissertation reading committee.

[University Oral Examination Form](#) Policy

The chair of the examining committee may not have a full or joint appointment in the adviser's or student's department, but may have a courtesy appointment in the department. The chair can be from the same department as any other member(s) of the examination committee and can be from the student's minor department provided that the student's adviser does not have a full or joint appointment in the minor department.

For Interdisciplinary Degree Programs (IDPs), the chair of the examining committee may not have a full or joint appointment in the primary adviser's major department and must have independence from the student and adviser and the IDP Director is not eligible to serve as the chair.

In the case of large departments such as Medicine, the Departmental Division of the Chair must not be shared by the advisor. The correct number of faculty committee members for the orals committee is five. For students with two PhD thesis co-advisors, the number of faculty committee members is still five. The final written dissertation must be approved by the student's reading committee and submitted to the Registrar's Office. Upon completion of this final requirement, a student is eligible for conferral of the PhD degree.

Timing of the Dissertation Defense

All of your committee members (including the chair, see Dissertation Defense Instructions for more information) must be present at your oral defense, so this date may hinge largely on when they are available. The Orals Chair and your Advisor must be physically present for the Defense, while the remaining committee members may Zoom in if prevented from attending physically. In addition, if you plan to defend, submit your dissertation, and graduate during the same quarter, you want to allow enough time after the defense to complete, format, and submit your dissertation – and submit all required graduation forms - in accordance with posted deadlines.

Timing of the Dissertation Submission

It's extremely important to consider the timing surrounding submitting your dissertation. You want to allow enough time after your oral defense to incorporate any resulting changes and finish the written dissertation in time for the submission and approval deadline. If your oral defense is well in advance of the deadline to submit the dissertation, you'll have plenty of time to make revisions. If your oral defense date is close to that quarter's dissertation submission deadline, you may not have enough time to finish the dissertation. If you find yourself in a pinch for time, it would make sense to talk with your mentor about arranging for a "graduation quarter" as described above, and withdrawing your application to graduate if you've already submitted it.

Timing of the Application to Graduate

You must file a Notice of Intention to Graduate ("Apply to Graduate") through AXESS for the quarter you complete the degree requirements. If you do not finish in time, you will need to annul the initial Intention to Graduate and submit a new one for the quarter in which you intend to finish. Please refer to the University calendar for deadlines. There are no exceptions for missed deadlines and is a hard and fast University rule. The deadlines are listed in AXESS and on the academic calendar.

Deadlines to submit the Application to Graduate in [Axess](#) are posted here:

<https://studentservices.stanford.edu/calendar/academic-dates>

<https://studentservices.stanford.edu/my-academics/graduation/how-do-i-apply-graduate>

If you miss the standard Application to Graduate deadline, there is also a Late Application deadline, with a fee that you will be responsible for paying:

<https://studentservices.stanford.edu/my-academics/graduation/how-do-i-apply-graduate>

Withdrawing an Application to Graduate

If you apply to graduate but are not able to submit your dissertation by the deadline, you will need to withdraw your application to graduate for that quarter via [Axess](#). You must submit an [Emergency Request to Withdrawn an Application to Graduate](#) ticket.

This form must be submitted to the Registrar's office no later than 12:00 pm (noon) on the day of the dissertation submission deadline. If you withdraw your application to graduate, be sure to ask the Registrar if you are required to submit a new Application to Graduate in the subsequent quarter.

Degree Conferral and Statement of Completion

In order to have your degree conferred, you must have completed all the University and Department requirements and submitted all work before the deadlines. The University imposes requirements such as residency, submission of official scores and transcripts, payment of fees, return of library books, etc., that the Immunology Program has no control over and sometimes no knowledge of. Please pay attention to the messages, letters, and notes you receive and respond to them in a timely manner.

Degrees are officially conferred weeks after the end of a given quarter. In the interim, PhD students often need what is called a Statement of Completion. This is a letter from the University Registrar confirming that a student has submitted a dissertation and will be recommended for a degree by the Faculty Senate. Students typically use this for postdoctoral appointments or to obtain employment before their degree is actually conferred.

Prior to requesting a Statement of Completion, the submission must first be approved by both the Final Reader and Registrar's Office. Then, students should submit a HelpSU ticket directed to the Records Unit in the Office of the University Registrar. If you prefer to have the letter emailed, please provide an email address in your ticket.

Dissertation DEFENSE CHECKLIST

Make Initial Arrangements

- _____ Submit a [Petition to Defend](#) to Dr. Olivia Martinez and arrange to meet with her in person. Once the Petition to Defend is approved, students may proceed with the dissertation defense process.
- _____ Make sure that you have a first-author manuscript that has been submitted, is in press, or has been published.
- _____ Schedule the orals at least two months prior to the anticipated date to accommodate the committee members' schedule. Inform the Program Administrator and Dr. Martinez of the date. You should plan on one hour for a public presentation, including time for questions from the audience, followed by 30-90 minutes of closed session with your committee, leading to a vote.
 - Reserve rooms for 2.5-3 hours
 - Clark Center: <https://biox.stanford.edu/about/building-services/room-scheduling>
 - Alway, CCSR, LKSC, or MSOB: <http://med.stanford.edu/irt/edtech/classrooms/features.html>
 - BMI: Contact a Program Administrator
 - Contact the Program Administrators if assistance is needed
 - If Stanford is enforcing restrictions for in-person gatherings to limit the spread of COVID-19, schedule your exam virtually via Zoom.

Oral Examination Chair

Students should confirm the Orals Examination chair no later than three weeks prior to the defense date.

The role of the Oral Exam (Dissertation Defense) chair is similar to that of the qualifying exam chair; they oversee the proceedings. The chair sets the tone and organization of the oral exam, i.e., order of questioning, timing of questioning, leads the discussion when student has left the room, provides ballots for a secret vote, signs the Oral Examination Form at the end of the meeting, and may write up a brief report for the program director and administrator stating that the student has passed. The chair is allowed to participate in the scientific discussion but is not required to do so.

Things to note when selecting your oral examination chair:

1. The responsibility of selecting a chairperson for your oral exam falls on the student, with advice from the mentor.
2. The orals chair cannot be someone who is already part of your committee.
3. The orals chair must be a member of the Academic Council; faculty with University Medical Line (UML) appointments cannot serve as Oral Exam chairs.
4. The Oral Exam chair cannot have a primary appointment in the same department as the thesis advisor/mentor(s). A courtesy appointment in that department is fine.
5. In the end, the orals committee will consist of: The mentor (or co-mentors), 3 Readers, and 1 Committee Chair..

(No later than) Three Weeks Prior to Defense Day

- _____ Send program administrators the following information:
 1. Defense Information: Date, Time, Location, and Title of the thesis (for publicity purposes).
 2. Flyer to be distributed and posted on the Immunology website
 3. Name of the oral examination chair
 4. Completed University [Oral Examination Form](#) (without signatures)
 5. One-page abstract of the dissertation
- _____ Send a reminder to all members of your committee and confirm that they will be present; Program Administrators will send the first announcement of your defense to Immunology List.

Two Weeks Prior to Defense Day

- _____ Submit your complete dissertation to the entire orals committee (including the chair). The student's dissertation advisor should read and approve the dissertation document before it is sent to the committee.
- _____ Program Administrators will email all related documents to your oral examination chair that including your abstract, Oral Examination Form, voting ballots (done via Google Forms for virtual defenses), instructions on how to lead the defense/meeting, and what to do with the Oral Examination Form after the defense.
- _____ Practice presentation
- _____ Only one slide (and 2-3 minutes of comments) should be included for acknowledgements
- _____ Check audiovisual setup for the defense room or for Zoom defense
- _____ Program Administrators will send email announcement of defense

One Week Prior to Defense Day

- _____ Program Administrators will send the second announcement of your defense to Immunology List.

On Defense Day

- _____ Orals committee chair brings the packet (with Orals Form) to the defense
- _____ The Registrar's Office created a new Reading Committee Page eForm. This new procedure should be used by all PhD students to virtually gather signatures from each individual reading committee member, and will enable them to fully satisfy both the title page and reading committee signature page requirements. **Students will need to provide documentation of an email to each individual reader, asking for approval of their signature page, and then upload the email approval from each reader to the eForm platform.** Uploading the Dissertation reading Committee Form is not accepted.

Before the eForm is submitted, students must first confirm the departmentally approved reading committee members are correctly listed in Item 2 "Confirm Reading Committee" as shown on the eDissertation/eThesis Center.

If the committee is not correctly listed, such as a missing committee member or a committee member that should be removed or simply no reading committee members are listed in Axess, students should contact their department Student Services Officer to have the information updated before beginning the eForm process. Without successful completion of the eForm, students will not be able to clear Item 3, "Signature Page Submitted," as shown on the Axess eDissertation/eThesis Center pages.

_____ All members of your committee must be physically or virtually present for the entire public portion, and the private portion, of your defense. If a committee member is not present, you will not be able to graduate and will need to reschedule your defense. The Orals Chair must be physically present in the room with the defending student.

After Dissertation Defense

_____ Have your orals chair sign the University Oral Examination Form and return the form and chair packet to the Program Administrators by the next business day. They will enter the Oral Examination Milestone as completed in [Axess](#).

_____ During Covid, the Registrar's Office created a new Reading Committee Page eForm. This new procedure should be used by PhD, JSD, DMA, and Engineer students who need to virtually gather signatures from each reading committee member, and will enable them to fully satisfy both the title page and reading committee signature page requirements. Students will need to provide documentation of an email to each individual reader, asking for approval of their signature page, and then upload the email approval from each reader to the eForm platform.

_____ Finish dissertation, obtain reading committee members' signatures, and submit to the Registrar. Instructions may be found on: <https://studentservices.stanford.edu/my-academics/earn-my-degree/graduate-degree-progress/dissertations-and-theses>

_____ Apply to graduate (or for a Graduation Quarter) by the Registrar's deadline

_____ Celebrate!

Finances

General Policy

Students admitted to the program are offered financial support for tuition, a living stipend, health insurance coverage for those not on outside insurance, and for first-year graduate students, a small allowance for tech funds. Eligible applicants are required to apply for independent fellowships such as from the National Science Foundation (NSF) or National Defense Science and Engineering Graduate Fellowships. NSF Fellowship applications are due in October of the year prior to matriculation in the graduate program, and only one more NSF application is permitted in the first or second year. Students who are eligible will be required to submit an NSF application during Autumn quarter of year 1. Immunology graduate students should continue, and are strongly encouraged, to apply for outside fellowships after matriculation. Admitted students are typically offered financial support in the form of Stanford Graduate Fellowships, NIH traineeships, or research assistantships.

Direct Deposit

Axess (<http://axess.stanford.edu/>) is the primary link for funding information and other sites relevant to a student's academic career at Stanford. After receiving a SUNet ID, students visit Axess to securely enroll in direct deposit, view pay statements and declare state and federal tax withholding allowances.

These stipends are supplemented up to the approved stipend level for the academic year, either as a stipend or a salary/biweekly payment. Salary/bi-weekly payments usually have taxes withdrawn whereas stipends do not; a student will receive a bi-weekly paycheck as either a supplement to a fellowship stipend or as a research assistantship beginning in their 5th year, if going onto PI funding. Below is a typical funding schedule (Funding Timeline).

Funding Options

Year 1	<ul style="list-style-type: none">• Immunology Training Grant (primary funding for 2 years)• Stanford Biosciences funding• SGF (2 or 3 years)• NSF (3 years). Students are only allowed to apply once, unless they applied prior to graduate training in which case they can reapply as a graduate student. <p><i>Students are required to apply for at least 2 external fellowships (e.g., NSF, NIH, or NGSEG)</i></p>
Year 2	<ul style="list-style-type: none">• Immunology Training Grant, 2nd and last year• Stanford Biosciences funding• SGF, 2nd year• NSF, 1st or 2nd year• NIH Predoctoral Fellowship, 2nd year after Qualls Part II <p><i>Students apply for external and internal fellowships</i></p>
Year 3	<ul style="list-style-type: none">• Stanford Biosciences funding• SGF, 3rd and last year• NSF, 2nd or 3rd year• NIH Predoctoral Fellowship, 2nd or 3rd year <p><i>Students apply for external and internal fellowships</i></p>

Year 4	<ul style="list-style-type: none"> Stanford Biosciences funding NSF, 3rd and last year NIH Predoctoral Fellowship, 3rd or 4th year; internal fellowships (DARE, Mason Case, Lieberman Fellowships, BIO-X) Research Assistantships; School of Medicine tuition supplements from non-NIH sources <p><i>Students apply for external and internal fellowships</i></p>
Year 5	<ul style="list-style-type: none"> Research Assistantships; Preceptor is responsible for both salary, Campus Health Service Fee and TGR tuition. NIH Predoctoral Fellowship, 5th and last year; internal fellowships (DARE, Mason Case, Lieberman Fellowships, BIO-X) Completion of other miscellaneous fellowships
Year 6 and beyond	<ul style="list-style-type: none"> Research Assistantships; Preceptor is responsible for both salary, Campus Health Service Fees and TGR tuition.

Fellowships for Graduate Students

Eligible first- and second-year PhD students will be appointed to the Immunology Training Grant for the first two years. Beyond that, students will be funded with non-NIH sources. **All eligible first- and second-year PhD students are required to apply for a National Science Foundation Graduate Research Fellowship (NSF).** Typically, the application deadline is in late October/early November. Please see the NSF website for deadlines: <https://www.fastlane.nsf.gov/grfp/Login.do>.

Eligible students in their third year and beyond are expected to apply for other fellowships. These include (but are not limited to) NIH NRSA, SGF, SGIF, Mason Case, BIO-X, DoD NDSEG, and DARE fellowships.

Students are encouraged to consult their faculty advisors when preparing fellowship applications.

For a comprehensive listing of fellowships, please visit the Stanford School of Medicine Research Management Group page: <https://med.stanford.edu/rmg/funding.html>.

Charges/Fees

Charges are the primary component of the university bill. Charges are compiled from various offices and departments and placed on the bill. Examples of charges a student may see on the university bill:

- **Tuition fees.** These charges depend on the number of units taken. The Immunology program will process payments for tuition fees (not to exceed the 10 unit tuition rate).
- **Housing, room and dining charges.** These fees are charged by Residential & Dining Enterprises. Other housing charges may include early arrival fees, repair fees and termination of occupancy fees. The Immunology program does NOT cover housing costs. If a student would like to have housing costs deducted from their paycheck it is the student's responsibility to set up the deductions. For more information on payroll deductions please see <https://studentservices.stanford.edu/my-finances/understand-your-student-bill-payment-system/make-payment/payroll-deduction-plan>
- **Health Insurance (Cardinal Care) fee.** All registered students are automatically enrolled in Cardinal Care Insurance at the beginning of Autumn Quarter and are enrolled for the whole academic year. Cardinal Care is covered by University funds. The Immunology program does not pay for student health insurance out of Program

Funds. You may decide to waive Cardinal Care if you have alternative coverage. See Waiving Cardinal Care for [Domestic Students](#) and [International Students](#).

- **Campus Health Services fee.** This fee supports many of the services provided by Vaden Health Center and is mandatory for all undergraduate and graduate students enrolled in Stanford. The services provided by Vaden Health Center are not covered by health insurance (Cardinal Care) fees. The Immunology Program will cover the Campus Health Service Fee for the first 4 years (unless the student has a fellowship that covers the CHS Fee, e.g. NSF), starting in Year 5 and beyond, the CHS Fee becomes the responsibility of the student's Advisor.

Tax Information

Graduate students are supported by fellowship stipends or research assistantships. More information regarding the Student Graduate Financial payroll systems can be found on: <https://fingate.stanford.edu/paying-people/student-payments-graduate-and-undergraduate>.

This website provides information on how to read and understand your university bill, tax information, payroll for graduate students on research assistantships.

1. If you are primarily supported by a fellowship, you are receiving a quarterly stipend. Stipend checks are usually issued the day before classes. Stanford does not withhold tax on quarterly stipends. The amount of tax varies according to total income, dependency status, treaty status for international students, and individual circumstances. The student is responsible for making quarterly estimated tax payments to the IRS and California's state tax board. Students who are currently paying for their own tuition are issued a 1098T, which allows them to claim educational tax credits. You should NOT use the 1098T for tax purposes as your stipend and tuition are entirely covered by fellowship funds.
2. Students on RA salary are paid on the 7th and 22nd of the month (or on the preceding work day if these dates fall on a weekend or holiday). **The first RA Salary payment of Autumn Quarter is on October 22nd, so please plan accordingly.** Federal and state taxes from research assistantships should be filed on April 15th. Students can fill out an on-line W-4 application through Student AXESS. At the end of January, a W2 is sent annually to students supported by bi-weekly pay.
3. International students may contact Bechtel to see what tax assistance resources are available. Instead of a 1098-T, international students will receive a 1099-T (stipend pay) or 1042-S (bi-weekly pay). **Fellowship stipends paid to non-U.S. residents are subject to a 14% withholding, regardless of the number of dependents.**

The Office of Student Financial Services offers more tax information through their website: <https://studentservices.stanford.edu/my-finances>. To be absolutely certain about how to file your taxes, please consult a tax professional. **The Immunology Program staff is not allowed to advise any students on their taxes and do not have access to RA salary paycheck amounts, only the total that should be paid out per quarter/academic year.**

Other Funding Resources

- [Funding and Training Opportunities](#) – Provides a list of External Fellowship and Grants and Stanford Fellowship and Training Programs
- [Graduate Cash Advance](#) – Helps graduate students with expenses before their graduate financial support is posted to their student account and/or TA/RA salary is paid

- [Graduate Student Aid Fund](#) – Assists with University fees (i.e., health services fee, health insurance)
- [Graduate Emergency Grant-in-Aid Funds](#) – If graduate students experience an unexpected financial hardship (e.g., medical, legal), it is possible to apply for grant-in-aid (small grants, not loans)
- [Financial Aid Office](#) – Information and application forms for federally subsidized student loans
- [1:1 Financial Coaching](#) – Mind Over Money’s 1:1 financial coaching program provides students with the opportunity to share their personal financial circumstance with university-trusted individuals and explore ideas and build skills
- [Graduate Housing Loan](#) – assists with move-in costs for off-campus housing
- [Opportunity Fund](#) – assistance with expenses (including conference travel) for diversity and first-generation students
- [Biosciences Travel Grant Program](#) – defray conference fees including registration, travel, lodging, and food
- [Student Budget](#) – provides estimated expenses
- [Bechtel](#) – provides information on on-campus employment, CPT, OPT, internships and tax information for international students
- [Student Financial Services](#) – provides information about the bill, tax information, third party sponsor invoicing, etc.
- [Mind Over Money](#) – free online literacy tool
- [School of Humanities & Sciences website](#) – information about graduate awards & fellowships
- [VPGE](#) – provides information about graduate fellowships
- [Gateway to Financial Activities](#) – provides administrative resources (e.g., sign-up for direct deposit, tax treaty information)

FAQs and Available Resources

Choosing Labs for Rotations and Dissertation Research

First-year students will rotate in 3 labs (one each quarter) so that **by June of their first year they can choose their dissertation lab**. At least two of these rotations should be Immunology labs and the third may be in lab from another Bioscience program. In some cases, students may wish to do a fourth rotation in the summer of their first year before choosing a lab.

Students should consult with Dr. Olivia Martinez before confirming any rotations prior to their arrival at Stanford. Incoming students should confer with Dr. Martinez before arranging Autumn quarter rotations. It is recommended that students consider multiple PI's for rotation experiences. Rotations generally start and end with a given quarter but don't have to match up exactly. Enough time should be spent in the lab to (1) get a real sense of fit, and (2) learn new techniques. Students do not need to stay the whole quarter if a rotation isn't working out and should speak with Dr. Martinez if they would like to end a rotation early.

Rotation Evaluations – Students are expected to provide a rotation evaluation at the end of each quarter. Evaluation forms are available via the program's site: <https://med.stanford.edu/immunol/phd-program/resources.html>.

You can find information about our faculty's research interests on the faculty directory page.

FAQs

1. How do you find a lab to rotate in?

The first step is to identify faculty members and labs where the research is of interest to you. You can find information on Immunology Graduate Training Faculty and their research interests at the end of this Handbook and at:

https://med.stanford.edu/immunol/people/meet-faculty.html#graduate_trainingfaculty.

It is a good idea to identify 3-5 labs of interest as soon as possible. Current graduate students are a good source of information about the research interests and styles of individual labs. Dr. Martinez will provide guidance in identifying or choosing a lab to rotate in and you can also contact members of the Graduate Program Committee.

Opportunities will be provided during the fall for you to meet faculty, including research talks at the Immunology retreat, and lunch talks with faculty. You are encouraged to explore many options for lab rotations.

2. When and how do you ask a faculty member if you can rotate in their lab?

It's easiest to email the Faculty member, tell them you are interested in rotating in their lab, and ask if they are taking rotation students. If so, arrange to meet with the Faculty member to discuss a potential rotation. At the meeting, you should discuss why you are interested in the lab and possible rotation projects. If you haven't already arranged your first rotation when you arrive for Orientation, you should start the process immediately. To arrange rotations for winter and spring quarters it is best to begin talking to faculty members about rotating by week 8 or 9 of the prior Quarter. Incoming students should confer with Dr. Martinez prior to arranging Autumn rotations.

3. What should you expect to accomplish in your rotation?

The lab rotation is a chance to get familiar with the lab and to help you determine if it is a good fit for you. During your rotation, you should plan to spend most of the time that you are not in class, in the lab. If you do this, by the end of the Quarter you will have a good sense of the research going on in the lab and dissertation projects you might be interested in as well as the culture and dynamics of the lab, and the mentorship style of the Faculty member. These are all important aspects of helping you choose a lab. As a guideline, you are expected to make sufficient progress on your rotation project to give a 15-minute presentation to the Graduate Program Committee on your rotation research – you will be asked to present the work from one of your rotations to the Graduate Program Committee in June. Your rotation advisor will also expect you to present your work to the lab at the end of your rotation.

4. How many rotations should you do?

We require students to rotate in three labs (one each quarter) so that by June of their first year they are ready to choose a lab for their dissertation research. At least two of these rotations must be in Immunology labs. In some cases, students may wish to do a fourth rotation in the summer of their first year before choosing a lab.

5. What if you know the lab you are rotating in isn't for you?

Sometimes you know immediately that the lab just isn't a right fit for you and that is okay. In this case, it is important to advise Dr. Olivia Martinez and look for a new rotation. Rotations are for you to find the lab that is the best fit for you.

Rotation advice:

- Set up your rotations as early as possible.
- Talk to as many faculty (principal investigators, PIs) as possible, both about their work and the work of other potential labs.
- Attend multiple lab meetings in various labs of interest. This allows you to see the culture of the lab without committing to a full rotation. Also, you will be able to see the current status and future directions of many projects in the lab. Lab meetings are the best place to get the most current scoop on the PI's research.
- Talk to other students in the program about lab options.
- Don't be afraid to expose yourself to new and different areas of immunology that may appeal to you.

Advice on choosing a thesis lab

Your dissertation lab is where you'll be spending a lot of time over the next few years, so do your best to find a place that feels comfortable for you. Important components of finding a good fit include the mentorship style of the PI and the scientific questions being addressed in the lab. Gain information by talking to as many current and former lab members, other students, and PIs to get information about a lab.

Typical questions to ask others and yourself when choosing a lab include:

- What is the PI's mentoring style? PI's philosophy in dealing with people and publishing papers?
- How does the PI choose and distribute projects among lab members, and the role the student plays in decision-making?
- How much time does the PI spend with lab members?
- How much time is the PI away from the lab for travel or clinical responsibilities?

- Does the PI help his/her people get good postdoc positions/jobs? Does s/he give career advice? Where and what type of positions have lab alumni obtained?
- How does the PI handle collaborations?
- What is the student: postdoc ratio? Few students and many postdocs have a different feel than many students and few post docs.
- What the lab's publication record, especially for graduate students? Have there been authorship conflicts? If so, why?
- How supportive is the PI of lifestyle choices (spouse, children, and other important non-lab commitments)?
- Are the people in the lab happy? Do they get along well and work together?
- How many hours do people work in the lab?
- What is the financial situation of the lab?
- What is the average time to completing a PhD degree in the lab?

Requirements for Second Year

- Students must complete all core course requirements by the end of their second year; the student's dissertation committee is responsible for advising the student through the research and other courses as needed towards the completion of the PhD dissertation. Elective courses are agreed upon by the student, advisor, PhD Program Director, and dissertation committee. These courses may be chosen from graduate courses and seminars in any of the biomedical science departments and programs. (*Elective courses not taken on the list*)
- Graduate students beyond the first year are required to attend at least 50% of the Immunology Seminars each quarter.
- Students looking into TAing during their second year should refer to the Teaching Assistantships section.

Immunology Teaching Assistantship (TA) Requirements:

All Immunology graduate students are required to do **two** TAships starting their second year in the program. Students must have completed their second TAship by the beginning of their fifth year.

All Students are required to do one TAship from “List A” and one from “List B”, a total of 2 TAships during years 2-4. If you haven't done a TAship from both lists, you will not be approved for TGR status.

Any requests to deviate from the lists below, will have to be approved by the Program Director, Olivia Martinez.

MSTP students are only required to a TAship from List A, as they have usually completed a Medicine Course Teaching Assistantship prior to joining the Immunology Program.

2023-2024 LIST A

Immunol 200 Cellular and Molecular Immunology: An Introductory Course
Immunol 201 Advanced Immunology I

Immunol 202 Advanced Immunology II
Immunol 203 Advanced Immunology III
Immunol 207 Essential Methods in CSI

Immunology Start Up Week with the incoming cohort

2023-2024 LIST B

Immunol 206 Intro to Applied Computational Tools in Immunology
Immunol 223 Biology & Disease of Hematopoiesis
Immunol 258 Ethics, Science and Society
Immunol 275 Tumor Immunology
Immunol 305 Immunology Journal Club
Immunol 312 Emerging Topics in Computational Immunology

Medicine Courses:

Immunol 205 Immunology in Health and Disease
Immunol 209 Translational Immunology

A survey will be sent out asking for interest in TAing the courses listed above. The TA positions will be assigned based on who needs to fulfill their “List A” requirement. **Please remember when choosing your TA course wish list, completing your “List A TAsip should take precedence.**

Starting in 2022/23, TAs completing a List A TAsip will be paid a TA salary (10 hr/week).

Paid Student Positions that do not meet TAsip requirements:

Immunology Seminar Series (Immunol 311)
Immunology Admissions Week Chairs

TA selection process:

1. Each spring students are asked to provide their preferences for TAsips for the upcoming academic year.
2. The Program Administrator and Chair of the Graduate Program Committee reviews student TAsip requests and selects and matches the students to the appropriate courses based on the following criteria:
 - a. Which students need to complete their TAsip requirements
 - b. Student’s ranked preference
 - c. Completion of the CTL teaching assistantship orientation, through workshop or on-line course
 - d. Faculty input on TA selection is also considered
3. TAsips must be completed in 2nd through 4th years of graduate student. The fifth year will be dedicated mainly to completing PhD research and submitting a required first author publication.
4. Results of the TA match system will be announced in August for students and their PhD advisors, and the course directors.

The McDevitt Award

The Hugh McDevitt Award recognizes and awards a graduating PhD candidate in the Immunology Program for excellence in their doctoral dissertation research. The McDevitt Award winner is chosen from a group of candidates who have defended and submitted their thesis to the Registrar in a given academic year. The criteria for selection are that the candidate's doctoral research is judged by the Graduate Program Committee to be of the highest quality in immunological research. The winner is announced during the Annual Immunology Program Retreat. They will receive a certificate and \$1,000 honorarium.

The Jones Award

The Pat Jones Award recognizes and awards a current PhD student in the Immunology Program for excellence in their instructional roles in the classroom and/or the laboratory. Any member of the Immunology community can nominate a current Immunology PhD student for this award, including self-nominations. A call for nominations will occur in the beginning of the fall quarter and will remain open until the end of Week 3. The criteria for selection are that the student's teaching and mentoring is judged by the Graduate Program Committee to be of the highest quality. The winner is announced during the Annual Immunology Program Retreat. They will receive a certificate and \$1,000 honorarium.

The Service Award

The Immunology Service Award recognizes and awards a current PhD student in the Immunology Program who has repeatedly demonstrated an exceptional commitment towards service. Any member of the Immunology community can nominate a current Immunology PhD student for this award, including self-nominations. A call for nominations will occur in the beginning of the fall quarter and will remain open until the end of Week 3. The criteria for selection are that the student's service to the program, university, and/or broader community is judged by the Graduate Program Committee to be of the highest quality and impact. The winner is announced during the Annual Immunology Program Retreat. They will receive a certificate and \$1,000 honorarium.

Leadership Opportunities

The Immunology Program encourages student involvement and feedback to improve the quality of academic and social experiences. The following positions are held by students, and elections are held annually at the last Journal Club meeting before the summer term. This year's leadership group is as follows:

- Student Director for Immunology Seminars: **Gabe Barron**
- Student Representative to the Executive Committee: **Izumi de los Rios Kobara**
- Student Representative to the Graduate Program Committee: **Adonis Rubio**
- Student Representatives to the Admissions Committee: **Leslie Chan and Oliver Takacsi-Nagy**
- First-year Advising Committee: **Jessica Diarra and Warren Reynolds**
- Biosciences Admissions Week: **Norma Gutierrez and Rebekah Costello**
- CDIII (Community, Diversity and Inclusion in Immunology): **Anthony Francois and Xariana Vales Torres; Alternates: Izumi de los Rios Kobara and Evan Maestri**
- Social Chair Representative: **Markus Diehl**
- Science in Progress Talks Organizer: **Audre May**

Program Activities/Events

Visit the Immunology Program Seminars & Events page for updated schedules and speakers: <https://med.stanford.edu/immunol/seminars-events.html>

Immunology Seminar Series

Graduate seminars are normally held on Tuesdays at 4:30-5:30pm and are an important means of attaining a broad and comprehensive exposure to all areas in immunology as well as gaining a professional perspective and competence in the field. First-year students are required to attend all immunology seminars ([IMMUNOL 311](#) Seminar in Immunology). Students in their second year and above are required to attend 50% of the seminar series each academic year until the last quarter in which their Ph.D. oral defense takes place.

Science-in-Progress (SIP) Talks: The SIP format features in person research presentations by both graduate students and postdoctoral fellows to the immunology community. The purpose of a Science-in-Progress talk is to gain more practice in presentation skills, to present your work to the immunology community, and to get useful feedback on both your presentation and your work. The SIP Talks are scheduled from Autumn Quarter 2023 through Summer Quarter 2024 and are held on Wednesdays 12:00-1:00pm. Students are required to present one SIP prior to graduation.

Graduate Student Journal Club: Both MCTI and CSI students are required to attend the [IMMUNOL 305](#) Immunology Journal Club for their first through third years. Attendance is optional for fourth year and above graduate students. Journal Clubs are held Tuesdays at 3:00-4:00 pm from Autumn through Spring during 2023-24 to gain practice in oral presentation skills and to learn to present and fairly critique a published paper in some area of immunology. Faculty are encouraged to attend Journal Club.

Faculty Research Presentations: Faculty teaching in the Immunology Program have the opportunity to meet and talk to First Years about their lab's research. The meetings are helpful in the cohort's search for rotation labs. The meetings are held on Thursdays 12:30-1:30pm during the Autumn and Winter Quarters.

Annual Immunology Scientific Conference: In the Autumn Quarter, the Annual Scientific Conference is held, and is attended by students, staff, postdocs and program faculty of Stanford Immunology. All immunology graduate students are required to attend. Students are required to give one poster and one scientific presentation at the Scientific Conference during their years in the program.

Graduate Student Life and Services

Preparing for 2023-2024

Congratulations and welcome to graduate studies at Stanford Immunology! Below are resources to help you prepare the new academic year.

Grad Connect

<https://canvas-gateway.stanford.edu/goCanvas.html>

Grad Connect is a virtual orientation for incoming Stanford doctoral and masters graduate students. This “course” on Canvas is full of information to help you take care of things before and when you begin your graduate studies, aggregating from multiple sources so you don’t have to search for what you need (Grad Connect complements the [Gateway for New Graduate Students](#)).

Cardinal Ready

<https://cardinalready.stanford.edu/>

The Office of Emergency Management created an emergency preparedness website, CardinalReady, to serve the campus community as a single source for preparedness information. The website houses scenario-specific guidance for students, staff, and faculty. Scenarios include earthquakes, active threats, power outages, and more.

Diversity

Stanford Immunology pledges to work towards creating a place where every person feels safe, supported, and thrives. We commit to working within our immediate community and beyond to create an environment of inclusion, tolerance, and equity for all, regardless of race, color, national origin, ethnicity, gender, sexual orientation, and religion. We’ve created a committee this year, consisting of faculty, graduates and postdocs, to develop and implement programs and policies to enhance diversity, opportunity, and inclusion.

Read the [Message from the Director](#), Dr. Olivia Martinez on racial justice and diversity. Visit the Immunology Diversity page (<http://med.stanford.edu/immunol/about/diversity.html>) for School of Medicine and University resources, events, and literature on diversity programs and resources.

Vacation Policy

The Immunology Ph.D. program is a year-round program, and graduate students work on projects for which there is an expectation of and commitment to continuous effort. Graduate students are allowed 15 days of vacation time per year (not including Christmas and New Year’s Day). Generally, only a portion is used during Winter Closure. Mutually acceptable arrangements should be made in advance for the coverage of any critical functions and/or leaves in excess of this allocation. Leaves in excess of this allocation may be with an adjustment in financial support.

First Year students must check with Dr. Olivia Martinez before making travel arrangements and **should not plan vacation during Rotation Presentations in June**. Second year and above students must have permission from their PI to take vacation. Students should plan their

personal vacation carefully. It is not advised to travel during the quarter if you are taking courses.

Wellness Resources

Dr. Olivia Martinez is available to discuss personal concerns of students, and to recommend further conversations with the Advising Deans and/or one of the organizations or services below.

School of Medicine Office of Graduate Education

Shelly Rasnick, MPH, CHES
Assistant Dean, Student Affairs, Well-Being, and Inclusion
650.725.0537
srasnick@stanford.edu

The Office of Graduate Education (OGE) supports wellness and student life focused initiatives within OGE that meet the needs of diverse PhD and master's students in the Biosciences community. Contact Shelly on topics including student engagement, resources, and supporting holistic wellness through education and strategic planning.

There are many [health and wellness resources](#) available to you at Stanford, and we encourage you to take full advantage of them. This page contains resources that are specific to Stanford University and the Biosciences, and are intended to support you throughout your graduate education.

You can also always connect with our [Office of Graduate Education team](#) with any questions or concerns by reaching out to oge-helpme@stanford.edu.

Need Urgent Help?

If you need help immediately for yourself or someone else, please contact one of the following 24/7 resources:

650-723-3785	Counseling & Psychological Services (CAPS)
650-723-8222	Graduate Life Office (GLO) Pager. Dial the number, then enter ID # 25085
988	Suicide & Crisis Lifeline
911	For medical or mental health emergencies; call 9-911 if calling from a campus phone

Direct Support & Consultation

Need consultation and support? Below are resources available to you, whether you just need someone to talk to or would like to file a report.

Consult

[Office of Graduate Education \(OGE\)](#) – The Office of Graduate Education is a private resource that provides students with guidance and helps them explore resources. Contact oge-helpme@stanford.edu for more information.

[SoM Ombudsperson](#) – This is a confidential, informal resource that can function as a listener, mediator, or facilitator. The Ombudsperson offers resources and possible next steps to students and staff. Contact Jim Laflin at jlaflin@stanford.edu. Individuals affiliated with

programs outside of the School of Medicine, such as Biology and Bioengineering, are welcome to consult the [University Ombuds](#).

[Graduate Life Office \(GLO\)](#) – The Graduate Life Office is a private resources that answers questions and provides advice and resources to graduate students. For 24/7 crisis assistance, text 25805@pageme.stanford.edu. For non-urgent assistance, contact graduatelifeoffice@stanford.edu.

Mental Health Support

[Mental Health Team](#) & [Counseling and Psychological Services](#) – The School of Medicine Mental Health Team (MHT) and Counseling and Psychological Services (CAPS) provide mental health support through therapy and psychiatry by way of short-term care and resource connection. The MHT resource is free for all Biosciences MS and PhD students, and CAPS requires a copay. All appointments are made through CAPS – [650-723-3785](tel:650-723-3785). If you are wishing to book with the MHT, please let the CAPS scheduling team know when you call so that they can direct you appropriately.

[Office of Religious & Spiritual Life](#) – The Office of Religious and Spiritual Life is a resource that provides non-judgmental attention and support for everyone. Talk with a Chaplain by scheduling an appointment [here](#).

[Confidential Support Team](#) – The Confidential Support Team strives to foster connection, healing, and thriving for those impacted by sexual, relationship, and gender-based violence through consultation, counseling, and outreach. For urgent, 24/7 assistance, contact [650-725-9955](tel:650-725-9955). For non-urgent assistance during hours of operation, contact [650-736-6933](tel:650-736-6933).

Reporting Options

[SHARE/Title IX](#) – The SHARE/Title IX Office specializes in investigations, supportive measures, informal resolutions, and compliance for those impacted by sexual harassment and violence.

[Ethics & Compliance](#) – The Office of Ethics and Compliance deals with issues related to Stanford's code of conduct.

[Protected Identity Harm](#) – This resource deals with protected identity harm, through one of two reporting routes: the data route or the connection route.

[Threat Assessment](#) – This resource handles any concerns related to student safety and well-being.

Learning & Academic Support

Need academic support? Below are resources available to help you thrive academically at Stanford.

[Grant Writing Academy](#) – The Grant Writing Academy provides resources such as workshops, grant coaches, and a proposal library. There is a \$250 incentive for proposal submissions.

[Hume Writing Center](#) – The Hume Writing Center provides tutoring for writing and speaking, as well as Dissertation Bootcamp and other resources.

Center for Teaching and Learning – The Center for Teaching and Learning provides resources such as student learning programs, academic coaching, and peer learning consultants.

Schwab Learning Center at Children’s Health Council (SLC @ CHC) – SLC @ CHC provides 1:1 academic coaching for school and work, psychoeducational evaluations for learning disabilities and ADHD, post-evaluation counseling sessions, and referrals for psychiatry and psychological services. The services provided by SLC @ CHC are free for all Stanford Students. Learn more about eligibility for evaluations and other ADHD resources [here](#). Connect with SLC @ CHC by calling CAPS [650-723-3785](tel:650-723-3785) and requesting a consultation visit to discuss a referral to Schwab, then [register for SLC @ CHC](#).

Connection & Community

Looking for a sense of community? Below are resources available to help support you socially at Stanford.

BioPeers – BioPeers provides informal peer mentorship through non-judgmental guidance and support.

BioSci Events – Throughout the year, Stanford Biosciences puts on weekly events, including Bagel Wednesdays and various workshops.

LKSC 4th Floor Student Lounge – The LKSC 4th Floor Student Lounge contains a fitness center where you can attend classes and get personal training and a quiet room.

Student Organizations – Stanford has a plethora of student organizations for graduate students, including:

- **[Stanford Biosciences Student Association \(SBSA\)](#)** – SBSA represents graduate students from biology-related fields in the School of Medicine, the School of Humanities and Sciences, and the School of Engineering.
- **[Biomedical Association for the Interest of Minority Students \(BioAIMS\)](#)** – BioAIMS is an inclusive organization that provides a welcoming home for all Biosciences students at Stanford to celebrate their identities, especially those that have traditionally been marginalized in academia.
- **[Stanford Black Biosciences Organization \(SBBO\)](#)** – SBBO seeks to build a community among Black bioscientists in the School of Medicine in conjunction with the greater Black community at Stanford.
- **[Future Advancers of Science and Technology \(FAST\)](#)** – FAST is a program in which Stanford University graduate students mentor Future Advancers of Science and Technology (FAST) toward achieving their goals of answering open questions in science and engineering clever solutions to problems in their society.
- **[School of Medicine Diversity Center Of Representation and Empowerment \(D-CORE\)](#)** a space where any member of the Stanford Medicine community interested in issues of inclusion and diversity can hold meetings or just hang out and study.
- **[Graduate Student Council](#)** (GSC) is the student government for Stanford graduate students. The GSC hosts various events and represents student needs through advocacy.
- **[Lesbian, Gay, Bisexual, & Transgender Medical Education Research Group](#)** (LGBT MERG) changes the face of medical education to improve care for lesbian, gay, bisexual, and transgender patients.
- For more diversity resources and organizations at Stanford, visit the [Diversity Resources and Partnerships](#) page.

Work & Life

Need financial help or living accommodations? Below are resources available to help support your success in work and life as a whole at Stanford.

Financial Support

[Emergency Grant-in-Aid](#) – This is a university-wide resource for financial hardships/unexpected expenses. Grants are limited to \$5,000 per academic year, and are accepted on a rolling basis.

[Graduate Cash Advance](#) – The Graduate Cash Advance is a resource available to graduate students to help with expenses before graduate financial support is posted and/or TA/RA salaries are paid. Cash advances can be requested in increments of \$1,000 to \$3,000 every quarter. This is not additional aid but rather functions as a no-interest loan that must be repaid once graduate funding is distributed.

[Biosciences Hardship Fund](#) – This is a Biosciences PhD-specific resource for expenses that are creating financial hardships. Students are limited to \$5,000 per academic year and can apply twice per year.

[Mental Health Support Program](#) – Students can receive up to \$1,000 per academic year to support mental health copays, medication costs, etc. Applications are accepted on a rolling basis.

Navigating Life

Resources for Parents

- **[Graduate Life Office](#)** – The Graduate Life Office is here to support graduate students with children by connecting them to campus resources, offering support services, and organizing events and programming for all members of the family.
- **[Graduate Family Grant](#)** – The Graduate Family Grant provides up to \$20,000 per year per family to eligible graduate students with dependent children.
- **[Parents in Academia Group](#)**

Leaves of Absence

- **[Graduate Life Office](#)**
- Office of Graduate Education
- Your Department

Accommodations

- **[Office of Accessible Education \(OAE\)](#)** – Through both academic and housing accommodations, OAE works to mitigate physical and attitudinal barriers that students might face.

Physical Health

- **[Stanford Recreation and Wellness](#)** – athletic facilities, group fitness and recreation classes, intramural sports.

[Stanford Access](#) - Stanford Access offers complimentary curb-to-curb service to all eligible students, faculty, or staff with a disability or medical condition. For more information on hours of operation and how to arrange for on-campus rides, please visit our website: <https://transportation.stanford.edu/>.

Schwab Learning Center - Through a generous endowment from Charles and Helen Schwab, the Schwab Learning Center (SLC) was established to provide Stanford students with Learning Disabilities and Attention Deficit Hyperactivity Disorder (ADHD) a supportive academic environment through enhanced programs and service. SLC programs and services are offered on both the main campus and at the Stanford School of Medicine. Among the services offered are:

- Consultation and referral for students with suspected learning differences
- One-on-one learning strategies
- Academic tutoring

Assistive Technology - The OAE provides trainings and screenings on a variety of assistive computer technologies and software applications. Screenings create an opportunity for students and the OAE staff to review and discuss various assistive technologies and software applications that may prove useful. Services include:

- One-on-one training for assistive technology and adaptive software
- Software for speech recognition, text-to-speech applications, screen readers and screen magnification. Alternative input devices such as specialized keyboards and mouse substitutes
- Whiteboards capture devices to enhance studying
- Ergonomic computer workstations
- Refreshable Braille display
- CCTV video magnifiers
- The Alternate Format Production Facility has the capacity to convert print text to electronic text (e-text), large print, or Braille using high-speed scanners, specialized software applications, and Braille embossers.

For more information, visit our website: <https://oae.stanford.edu/accessibility-resources>

Voice: (650) 723-1066

FAX: (650) 723-5301

Email: oae-getinfo@lists.stanford.edu URL: <https://oae.stanford.edu/>

Address: 563 Salvatierra Walk, Stanford, CA 94305

Health Care

While at Stanford, your health care resources include the following:

- Access to Vaden Health Center – All students can access Vaden Health Center services during their academic careers at Stanford. As a member of the Stanford campus community all services are geared to your well-being. Vaden Health Center services include primary care, counseling and psychological services, radiology, lab, pharmacy, physical therapy and nutrition.
- Insurance – You will need health insurance when accessing health care outside of Vaden. Examples of services that require health insurance are referrals to specialists, inpatient care, emergency care, and services while away from campus (such as when traveling within the US or internationally).

Cardinal Care is a comprehensive [health plan](#) specifically designed for Stanford students. Coverage is worldwide. It includes medical, surgical, mental health care, hospitalization, emergency care and pharmaceuticals. Cardinal Care is administered and insured by Health Net of California (for medical benefits) and MHN (for mental health benefits). The 2023-2024

Cardinal Care health plan offers dental coverage. You can learn more about Stanford Health Care at: <https://vaden.stanford.edu/>.

Note: If you are defending and submitting your dissertation during the autumn or winter quarters, you must inform the Vaden Health Center that you wish to cancel your health insurance for the following quarter (if you defend/submit during spring quarter, you do not have to cancel your Cardinal Care enrollment as health insurance is paid in its entirety autumn through spring quarters). If you do not do this, Vaden Health Center will automatically bill your student account and you will be expected to cover 100% of the cost (\$2,064 per quarter), as the University will no longer be subsidizing it after your graduation. Please be sure to email healthinsurance@stanford.edu to inform them of your last quarter at Stanford.

Student Housing

Graduate students live in various apartment communities:

- Escondido Village – Apartments on eastside of campus - largest graduate community on campus
- Escondido South – Townhouses
- Rains Houses – Apartments
- Munger Graduate Residences – Apartments – priority given to Law School students
- Off-campus subsidized – Apartment complexes in Menlo Park, Mountain View and Palo Alto.

Couples housing and housing for students with children is also available. Housing applications for Autumn Quarter are due in the spring prior. For information on student housing, please visit the Student Housing website:

<https://rde.stanford.edu/studenthousing/housing-options>.

Housing rents and fees will be deducted directly from a fellowship stipend at the beginning of every quarter. If you are paid bi-weekly and wish to deduct a monthly amount directly from your check you will have to set up a payroll deduction, please contact the Student Services Center (Tresidder) to set up this arrangement.

Career Advice

There is a broad network of career services across the University. Here are some key resources:

- **BioSci Careers** (<http://med.stanford.edu/bioscicareers.html>) provides counseling/coaching, curriculum, and connections to more than 3,000 trainees in the medical and life sciences. Visit them in MSOB, 1st floor or call 650-721-1893 to set an appointment.
- **BioSci Connect** (<https://biosciconnect.stanford.edu/>) provides a way to connect with graduate students, postdocs, and alumni to build a strong community for career and life conversations while promoting opportunity for careers of choice. Join the [Immunology Group](#) to build connections with both local and global mentors, gain insight and guidance, offer/benefit from individualized coaching, attend customized workshops, and share career opportunities.
- **Stanford Career Education (formerly known as BEAM)**, <https://careered.stanford.edu/> is a part of Student Affairs and is the student career

education hub that connects students with the people and knowledge needed to help them explore career paths, identify and apply for opportunities, and cultivate personalized networks that shape their professional journey. The office is available M-F, 8am-5pm at the Student Services Building, or at 650-725-1789.

- **Office of the Vice Provost for Graduate Education (VPGE)** (<https://vpge.stanford.edu/>) offers programs in professional development to graduate students within all seven Schools. There's something to meet any graduate student's needs and schedule, from information-packed Quick Bytes lunches, to multi-session Negotiation Matters workshops, or week-long Stanford Graduate Summer Institute courses. Browse these offerings and sign up for those that interest you. The hours are M-F, 8:30am-5pm in 450 Serra Mall, Building 310 or 650-736-0775.






Immunology E-mail Lists





Once admitted, students are automatically added to the program's PhD ([Immuno-program](#)) e-mail list. Students interested in subscribing to other e-mail lists at Stanford for general announcements may do so by going to <https://itservices.stanford.edu/service/maillinglists/tools> and searching for and selecting the link.

These are open and public lists meant to be used for electronic communications. Normal network etiquette and policies should be observed (e.g. no advertisements, no chain letters, etc.). Specific University guidelines can be found here: <https://uit.stanford.edu/service/maillinglists/policies>.





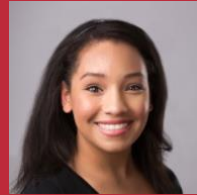
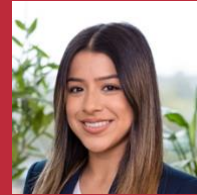
Immunology Directory






Graduate Students First Years

				
Jumana Afaghani	Filipe Araujo Hoffmann	Nate Bloom	Karsten Householder	Radeesha Jayewickreme
Rotating	Rotating	Rotating	Rotating	Rotating
jumana	faraujoh	nibloom	karstenh	radeesha

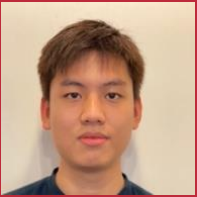




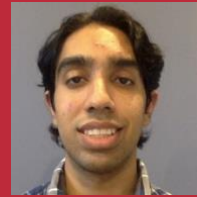
			
Soyeon Kim	Marcos Labrado	Keene Lee	Johnathon Soro
Rotating	Rotating	Rotating	Rotating
ksoyeon	mlabrado	cwkl2	jsoro




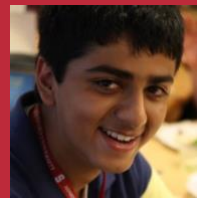


Second Years

					
Cort Breuer	Rebekah Costello	Jessica Diarra	Maïgane Diop	Jeanna Enriquez	Norma Gutierrez
Reticker-Flynn	Kim	Bendall and Meyer	Blish	Khatri and Davis	Reticker-Flynn
breuer	rebekahc	jdiarra	mdiop	jeanna	ngutier






				
Evan Maestri	Audre May	Warren Reynolds	Oliver Takacsi-Nagy	Xariana Vales Torres
Khatri	Mackall	Bendall and Greenleaf	Satpathy	Blish
maestri	audremay	warren.reynolds	olitn	xvalesto





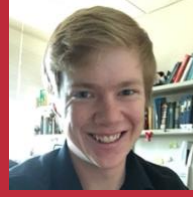
Third Years



					
Potchara Boonrat	Alea Delmastro	John (Anthony) Francois	Chloe Kashiwagi	Karan Kathuria	Azam Mohsin
Angelo	Jagannathan/ Angelo	Majeti	Aghaeepour/ Prince	Davis	Davis
potchara	alead	jaf0311	ckashiwa	kathuria	aamohsin

					
Colin Raposo	Adonis Rubio	David Seong	Vishnu Shankar	Flora Tierney	Pat Yan
Satpathy	Barnes	Agaheepour	Davis/Mischel	Howitt	Satpathy
craposo	adonisr	dhs37929	vishnus1	ftierney	patyan


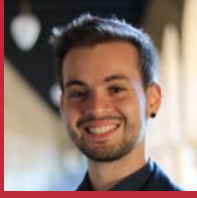



Fourth Years





				
Meelad Amouzgar	Gabe Barron	Preksha Bhagchandani	Anthony Buzzanco	Leslie Chan
Bendall amouzgar	Howitt gbarron	Kim/Meyer prekshab	Jardetzky abuzzanco	Blish lchan8

				
Christie Chang	Izumi de los Rios Kobara	Tejas Dharmaraj	Markus Diehl	Jason Nideffer
Satpathy christie.chang	Blish izumidk	Bollyky tdharma1	Engleman/ Reticker-Flynn markusdl	Jaganathan/Gr azia Roncarolo nideffer





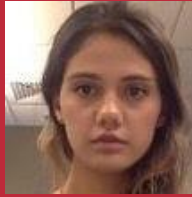
	
Ben Oberlton	Sarah Sackey
Bendall boberlto	Blish ssackey





Fifth Years

				
Rachel Ee	Camilo Espinosa	Joseph González	Maddie Lee	Katherine Nico
Bendall rrqe	Aghaeepour camiloe	Wang jcgz	Blish mjanelee	Howitt knico8

			
Kalani Ratnasiri	Gray Rodriguez	Valentino Sudaryo	Aaron Trotman-Grant
Blish/Khatri kalanir	Garcia grayr	Li vsudaryo	Majeti aarontg

Sixth+ Years

				
Justin Arredondo-Guerrero	Bryan Cannon	Candace Liu	Alexander Muselman	Ana-Jimena Pavlovitch-Bedzyk
Mackall juarredo	Bendall bryjc	Angelo cliu72	Engleman amuselma	Davis pavlo

			
Josselyn Pena	Hayley Raquer	Kameron Rodrigues	Brenda Velasco
Krams	Idoyaga	Jaiswal/ Montgomery	Shizuru
kameronr	hraquer	jsilb	bvelasco

Program Faculty

Program faculty have strong records as researchers, including publications and successful research. Our faculty have diverse backgrounds and have a record of research training who have mentored and helped develop successful, former trainees who have established productive careers. Faculty serve on committees, teach major courses, directly mentor students, and provide core support essential to the functioning of the Immunology Program. The program is proud to have 76 Faculty members in total, 11 National Academy of the Sciences members, and 1 Nobel Laureate.

Immunology PhD Program Faculty are affiliated with the following departments, divisions, and institutes:

Basic Science Departments:

[Biology](#)

[Biochemistry](#)

[Bioengineering](#)

[Biomedical Data Sciences](#)

[Biostatistics](#)

[Biophysics](#)

[Chemical & Systems Biology](#)

[Chemistry](#)

[Computer Science](#)

[Developmental Biology](#)

[Epidemiology & Population Health](#)

[Genetics](#)

[Infectious Diseases](#)

[Microbiology & Immunology](#)

[Molecular and Cellular Physiology](#)

[Structural Biology](#)

Clinical Science Departments:

[Anesthesiology, Perioperative & Pain Medicine](#)

[Cancer Institute](#)

[Dermatology](#)

[Neurology and Neurological Sciences](#)

[Neurosurgery](#)

[Otolaryngology](#)

[Pathology](#)

[Pediatrics](#)

[Radiology](#)

[Surgery](#)

Department of Medicine/Divisions:

[Blood & Marrow Transplantation](#)

[Cardiovascular Medicine](#)

[Center for Biomedical Informatics Research](#)

[Endocrinology](#)

[Hematology](#)

[Immunology & Rheumatology](#)

[Infectious Disease](#)

[Nephrology](#)

[Oncology](#)
[Pulmonary & Critical Care](#)
[Radiology](#)

Department of Pediatrics/Divisions:

[Human Gene Therapy](#)
[Immunology & Allergy](#)
[Rheumatology](#)
[Stem Cell Transplantation](#)
[Vera Moulon Wall Center](#)

Institutes:

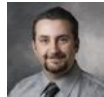
[Child Health Research Institute](#)
[Stanford Cancer Institute](#)
[Stanford Institute for Stem Cell Biology and Regenerative Medicine](#)
[Stanford Cardiovascular Institute](#)
[Stanford Institute for Immunity, Transplantation and Infection](#)












PhD Faculty Profiles and Contact Information

For more detailed information on each of the following faculty members, please visit their Stanford Community Academic Profile (<http://med.stanford.edu/profiles/>) or go to the faculty directory on the Immunology website (<http://med.stanford.edu/immunol/people/faculty.html>).

Our Immunology program faculty are UTL (University Tenure Line and on the Academic Council), NTL-R, (Non-Tenure Line, Research and on the Academic Council), or MCL (Medical Clinical Line and non-Academic Council). Only Academic Council Faculty can serve as Graduate Student Advisors.

Stanford Immunology Faculty

Photo	Name & Contact	Research
	<p>Nima Aghaeepour, PhD Associate Professor of Anesthesiology, Perioperative and Pain Medicine (Adult MSD), and of Pediatrics (Neonatology) Lab website naghaeep@stanford.edu</p>	Developing machine learning algorithms for analysis of immunological datasets to integrate them with other omics modalities and predict clinical outcomes
	<p>Ash A. Alizadeh, MD, PhD Professor of Medicine (Oncology) Lab website arasha@stanford.edu</p>	Systems Immunology & Oncogenomics of B- cell Lymphomas
	<p>Michael Angelo, MD, PhD Assistant Professor of Pathology Lab website mangelo0@stanford.edu</p>	Multiplexed ion beam imaging (MIBI); cancer immunotherapies

	Rosa Bacchetta, MD Associate Professor of Pediatrics (Stem Cell Transplantation) Lab website rosab@stanford.edu	Understanding immune regulation in health and disease; Clinical manifestations, immune mechanisms, and curative treatments
	Jennifer K. Bando, PhD Assistant Professor of Microbiology and Immunology Lab website jbando@stanford.edu	Mucosal immunology, innate lymphocytes
	Christopher Barnes, PhD Assistant Professor of Biology Lab website cobarnes@stanford.edu	We combine structural biology and immunology to study human health and disease
	Glaivy Batsuli, MD Assistant Professor of Pediatrics - Hematology & Oncology Lab website gbatsuli@stanford.edu	Research summary unavailable
	Sean Bendall, PhD Assistant Professor of Pathology Lab website bendall@stanford.edu	Single cell proteomic analysis of developing human systems
	Alice Bertaina, MD, PhD Associate Professor of Pediatrics (Stem Cell Transplantation) Lab website aliceb1@stanford.edu	Allogeneic HSCT in pediatric patients affected by hematological malignancies or nonmalignant disorders
	Catherine Blish, MD, PhD Professor of Medicine (Infectious Diseases) Lab website cblish@stanford.edu	NK cells, HIV, influenza, EBV, CMV, immune regulation during pregnancy
	Paul Bollyky, MD, PhD Associate Professor of Medicine (Infectious Diseases) and of Microbiology and Immunology Lab website pbollyky@stanford.edu	Chronic bacterial infections
	Scott Boyd, MD, PhD Professor of Pathology Lab website sboyd1@stanford.edu	High-throughput characterization of B cells and T cells in human immunity
	Yueh-hsiu Chien, PhD Professor of Microbiology and Immunology Lab website chien@stanford.edu	Antigen recognition and function of lymphocytes in health and disease
	Jennifer R. Cochran, PhD Senior Associate Vice Provost for Research, Addie and Al Macovski Professor, Professor of Bioengineering	Protein engineering to develop research tools and clinical therapeutics

[Lab website](#) | jennifer.cochran@stanford.edu



[Agnieszka Czechowicz, MD, PhD](#)

Assistant Professor of Pediatrics (Stem Cell Transplantation)

[Lab website](#) | aneeshka@stanford.edu

Stem cell biology, transplantation, cancer, genetic disease, bone marrow failure



[Kyle Daniels, PhD](#)

Assistant Professor of Genetics

[Lab website](#) | kyledan@stanford.edu

Research summary unavailable



[Mark M. Davis, PhD](#)

Director, Stanford Institute for Immunity, Transplantation and Infection and The Burt and Marion Avery Family, Professor Microbiology and Immunology

[Lab website](#) | mmdavis@stanford.edu

T cell recognition and human immunology



[Edgar Engleman, MD](#)

Professor of Pathology and of Medicine (Immunology and Rheumatology)

[Lab website](#) | edengleman@stanford.edu

Immune mechanisms in disease pathogenesis and treatment



[Stephen J. Galli, MD](#)

Mary Hewitt Loveless, MD, Professor in the School of Medicine, and Professor of Pathology and of Microbiology and Immunology

[Lab website](#) | sgalli@stanford.edu

The development of mast cells and basophils, and their roles in health & disease



[K. Christopher Garcia, PhD](#)

Younger Family Professor and Professor of Molecular & Cellular Physiology, and of Structural Biology

[Lab website](#) | kcgarcia@stanford.edu

Receptor signaling and structure



[Andrew Gentles, PhD](#)

Assistant Professor of Pathology, and of Medicine (BMIR)

[Lab website](#) | andrewg@stanford.edu

Computational systems biology of human disease



[William Greenleaf, PhD](#)

Professor of Genetics

[Lab website](#) | wjg@stanford.edu

Immune mechanisms in disease pathogenesis and treatment






















[Rogelio Hernandez-Lopez, PhD](#)











Assistant Professor, Bioengineering and of Genetics









[Lab website](#) | rogelih@stanford.edu











Understanding and engineering biomedical relevant cellular behaviors

	<p>Leonore A. Herzenberg, D.Sc Professor of Genetics Lab website leeherz@stanford.edu</p>	Development and function of B cell subpopulations, FACS
	<p>Michael Howitt, PhD Assistant Professor of Pathology, and of Microbiology & Immunology Lab website mhowitt@stanford.edu</p>	How intestinal microbes shape our immune system to promote both health and disease
	<p>Prasanna Jagannathan, MD Assistant Professor, Medicine – Infectious Diseases and, of Microbiology & Immunology Lab website prasi@stanford.edu</p>	Human immunology focused on malaria-specific immune responses in pregnancy and infancy
	<p>Siddhartha Jaiswal, MD, PhD Assistant Professor of Pathology Lab website sjaiswal@stanford.edu</p>	Aging of the hematopoietic and immune systems
	<p>Ted Jardetzky, PhD Professor of Structural Biology Lab website tjardetz@stanford.edu</p>	Structural biology of allergy and infectious disease
	<p>Livnat Jerby, PhD Assistant Professor of Genetics Lab website ljerby@stanford.edu</p>	Reprogramming immune responses across molecular and cellular modalities
	<p>Anusha Kalbasi, MD Associate Professor of Radiation Oncology – Radiation Therapy Lab website akalbasi@stanford.edu</p>	Treatment of sarcoma and melanoma, and to develop new ways to overcome resistance to immunotherapy
	<p>Purvesh Khatri, PhD Associate Professor of Medicine (Biomedical Informatics Research), and of Biomedical Data Science Lab website pkhatri@stanford.edu</p>	Translational bioinformatics approaches to translation medicine
	<p>Peter S. Kim, PhD Virginia and D.K. Ludwig Professor of Biochemistry Lab website kimpeter@stanford.edu</p>	Viral membrane fusion and its inhibition by drugs and antibodies
	<p>Seung Kim, MD, PhD Professor of Developmental Biology, of Medicine – Endocrinology, Gerontology, & Metabolism Lab website seungkim@stanford.edu</p>	Pancreas development, islet biology and disease mechanisms

	<p>Sheri Krams, PhD Senior Associate Dean, Graduate Education and Postdoctoral Affairs and Professor of Surgery (Abdominal Transplantation) Lab website smkrams@stanford.edu</p>	NK cell biology, microRNAs, exosomes, CyTOF, transplantation
	<p>Tobias Lanz, PhD Assistant Professor of Immunology & Rheumatology Lab website tlanz@stanford.edu</p>	Research summary unavailable
	<p>Ronald Levy, MD Robert K. and Helen K. Summy Professor in the School of Medicine, Professor of Medicine (Oncology) Lab website levy@stanford.edu</p>	The immune system and cancer
	<p>David B. Lewis, MD Professor of Pediatrics (Immunology) Lab website dblewis@stanford.edu</p>	T cell responses of neonates
	<p>Billy Li, PhD Professor of Genetics Lab website jin.billy.li@stanford.edu</p>	RNA editing: from biology to therapy
	<p>Michael Lim, MD Professor of Neurosurgery Lab website mklim@stanford.edu</p>	Understanding the mechanisms of immune suppression locally and globally in CNS tumors. We also have a strong interest in translational studies such as preclinical work for clinical trial design and correlative work on patient specimens from immunotherapy clinical trials.
	<p>Sydney Lu, MD, PhD Assistant Professor of Medicine - Hematology Lab website sydneylu@stanford.edu</p>	Research summary unavailable
	<p>Crystal Mackall, MD Ernest and Amelia Gallo Family Professor and Professor of Pediatrics and of Medicine Lab website cmackall@stanford.edu</p>	We focus on developing immune based therapeutics for the treatment of cancer
	<p>Holden Maecker, PhD Professor of Microbiology and Immunology Lab website maecker@stanford.edu</p>	Immune profiling: T cell response signatures to chronic pathogens and cancer

	Ravi Majeti, MD, PhD Director, Stanford Institute for Stem Cell Biology and Regenerative Medicine, RZ Cao Professor and Professor of Medicine (Hematology) Lab website rmajeti@stanford.edu	Characterization and targeting of leukemia stem cells in hematologic cancers
	Jonathan Maltzman, MD, PhD Associate Professor of Medicine (Nephrology) Lab website maltzman@stanford.edu	CD4+ memory T cell maintenance
	Olivia Martinez, PhD Johnson and Johnson Distinguished Professor of Surgery Lab website omm@stanford.edu	Viral immunity, EBV B cell lymphomas, immune regulation
	Eric Meffre, PhD Professor of Medicine - Immunology & Rheumatology Lab website emeffre@stanford.edu	Research summary unavailable
	Elizabeth Mellins, MD Professor of Pediatrics (Human Gene Therapy) Lab website mellins@stanford.edu	Regulation of immunity by MHC class II in health and disease
	Everett Meyer, MD, PhD Assistant Professor of Medicine (Blood and Marrow Transplantation), and of Pediatrics (Stem Cell Transplantation) Lab website evmeyer@stanford.edu	T cell immune monitoring and therapy in transplantation
	Emmanuel Mignot, MD, PhD Craig Reynolds Professor of Sleep Medicine Lab website mignot@stanford.edu	Autoimmunity of the brain and narcolepsy
	David Miklos, MD, PhD Associate Professor of Medicine (Blood and Marrow Transplantation and Cellular Therapy) Lab website dmiklos@stanford.edu	Chimeric antigen receptor therapy and hematopoietic cell transplantation
	Denise M. Monack, PhD Martha Meier Weiland Professor in the School of Medicine, Professor of Microbiology and Immunology Lab website dmonack@stanford.edu	Co-evolution of host immune mechanisms and pathogen virulence strategies
	Jayakar V. Nayak, MD, PhD Associate Professor of Otolaryngology - Head & Neck Surgery (OHNS) Lab website jnayak@stanford.edu	Upper airway stem cell biology

	Robert Negrin, MD Professor of Medicine (Blood and Marrow Transplantation and Cellular Therapy) Lab website negr@stanford.edu	Hematopoietic cell transplantation, immune regulation and cellular immunotherapy
	Aaron Newman, PhD Assistant Professor of Biomedical Data Science Lab website amnewman@stanford.edu	Data-driven investigation of normal and neoplastic tissue composition
	Mark Nicolls, MD Professor of Pulmonary and Critical Care Medicine Lab website mnicolls@stanford.edu	Lung immunology in pulmonary hypertension and transplantation.
	Garry Nolan, PhD Rachford and Carlota Harris Professor of Microbiology and Immunology Lab website gnolan@stanford.edu	Single cell proteomics and genomics of cancer, stem cells, & autoimmunity
	Derick Okwan, MD, PhD Assistant Professor of Pathology Lab website dokwan@stanford.edu	Research summary unavailable
	Trung Pham, MD, PhD Assistant Professor, Pediatrics - Infectious Diseases Lab website tpham8@stanford.edu	Uncovering mechanisms of tissue immunity and immunophysiology during persistent infection
	Bali Pulendran, PhD Violetta L. Horton Professor and Professor of Microbiology and Immunology Lab website bpulend@stanford.edu	Understanding the fundamental mechanisms by which DCs control innate and adaptive immune responses
	Nathan Reticker-Flynn Assistant Professor of Otolaryngology (Head and Neck Surgery) Lab website retickerflynn@stanford.edu	We investigate how tumors interact with the immune system during metastasis
	Bill Robinson, MD, PhD James W. Raitt, M.D. Professor of Medicine - Immunology & Rheumatology Lab website w.robinson@stanford.edu	Translational research in autoimmunity, with a focus on rheumatoid arthritis
	Maria Grazia Roncarolo, MD George D. Smith Professor of Stem Cell and Regenerative Medicine and Professor of Medicine (Blood and Marrow Transplantation and Cellular Therapy) Lab website mg1@stanford.edu	Regulatory T cells and tolerance mechanisms in transplantation, allergy and other conditions

	<p>Julia Salzman, PhD Associate Professor of Biomedical Data Science, of Biochemistry Lab website julia.salzman@stanford.edu</p>	<p>Statistical computational biology focusing on splicing, cancer and microbes</p>
	<p>Ansuman Satpathy, MD, PhD Assistant Professor of Pathology Lab website satpathy@stanford.edu</p>	<p>Developing and applying genome- scale technologies to study fundamental properties of the immune system in health, infection, and cancer</p>
	<p>Judith Shizuru, MD Professor, Medicine of Blood & Marrow Transplantation, and of Pediatrics - Stem Cell Transplantation Lab website jshizuru@stanford.edu</p>	<p>Transplantation of blood forming stem cells, immune tolerance induction</p>
	<p>Melody Smith, MD Assistant Professor of University Medical Line, Medicine - Blood & Marrow Transplantation Lab website melodysm@stanford.edu</p>	<p>Research summary unavailable</p>
	<p>Michael Snyder, PhD Stanford W. Ascherman Professor and Genetics Lab website mpsnyder@stanford.edu</p>	<p>Gene regulation, omics and personalized medicine</p>
	<p>Raymond A. Sobel, MD Professor of Pathology Lab website raysobel@stanford.edu</p>	<p>Immunopathogenetic mechanisms in CNS diseases</p>
	<p>Lawrence Steinman, MD George A. Zimmerman Professor and Professor of Neurology, and of Pediatrics Lab website steinman@stanford.edu</p>	<p>Genetic basis of autoimmune neural disease</p>
	<p>John B. Sunwoo, MD Edward C. and Amy H. Sewall Professor Professor of Otolaryngology (Head and Neck Surgery) Lab website sunwoo@stanford.edu</p>	<p>Understanding how NK cells, in the broader context of the host immune system, protect against developing and metastasizing tumor cells</p>
	<p>Hawa Racine Thiam, PhD Assistant Professor of Bioengineering, and of Microbiology & Immunology Lab website hrthiam@stanford.edu</p>	<p>Cellular biophysical mechanisms of innate immune cells functions</p>
	<p>Paul Utz, MD Professor of Medicine (Immunology and Rheumatology) Lab website pjutz@stanford.edu</p>	<p>Protein arrays, biomarkers, autoantibodies, influenza, COVID- 19, autoimmunity</p>



[Taia T. Wang, MD, PhD](#)

Assistant Professor of Medicine (Infectious Diseases) and of Microbiology and Immunology
[Lab website](#) | taiawang@stanford.edu

Mechanisms in human immunity and disease



[Irving Weissman, MD](#)

Virginia & D.K. Ludwig Professor for Clinical Investigation in Cancer Research, Professor of Developmental Biology
[Lab website](#) | irv@stanford.edu

Clonal events leading from HSC to leukemia stem cells



[Joseph C. Wu, MD, PhD](#)

Director, Stanford Cardiovascular Institute, Simon H. Stertzer, MD, Professor of Cardiovascular Medicine, and of Radiology
[Lab website](#) | joewu@stanford.edu

Stem cell biology -- ESC, iPSC, immunology

Graduate Training Faculty

Photo	Name & Contact	Research
	<p>Nima Aghaepour, PhD Associate Professor of Anesthesiology, Perioperative and Pain Medicine (Adult MSD), and of Pediatrics (Neonatology) Lab website naghaeep@stanford.edu</p>	Developing machine learning algorithms for analysis of immunological datasets to integrate them with other omics modalities and predict clinical outcomes
	<p>Ash A. Alizadeh, MD, PhD Professor of Medicine (Oncology) Lab website arasha@stanford.edu</p>	Systems Immunology & Oncogenomics of B- cell Lymphomas
	<p>Michael Angelo, MD, PhD Associate Professor of Pathology Lab website mangelo0@stanford.edu</p>	Multiplexed ion beam imaging (MIBI); cancer immunotherapies
	<p>Rosa Bacchetta, MD Associate Professor of Pediatrics (Stem Cell Transplantation) Lab website rosab@stanford.edu</p>	Understanding immune regulation in health and disease; Clinical manifestations, immune mechanisms, and curative treatments
	<p>Jennifer K. Bando, PhD Assistant Professor of Microbiology and Immunology Lab website jbando@stanford.edu</p>	Mucosal immunology, innate lymphocytes
	<p>Christopher Barnes, PhD Assistant Professor of Biology Lab website cobarnes@stanford.edu</p>	We combine structural biology and immunology to study human health and disease
	<p>Sean Bendall, PhD Associate Professor of Pathology Lab website bendall@stanford.edu</p>	Single cell proteomic analysis of developing human systems
	<p>Catherine Blish, MD, PhD Professor of Medicine (Infectious Diseases) Lab website cblish@stanford.edu</p>	NK cells, HIV, influenza, EBV, CMV, immune regulation during pregnancy
	<p>Scott Boyd, MD, PhD Professor of Pathology Lab website sboyd1@stanford.edu</p>	High-throughput characterization of B cells and T cells in human immunity
	<p>Yueh-hsiu Chien, PhD Professor of Microbiology and Immunology Lab website chien@stanford.edu</p>	Antigen recognition and function of lymphocytes in health and disease
	<p>Jennifer R. Cochran, PhD</p>	Protein engineering to develop research tools and clinical therapeutics

	<p>Senior Associate Vice Provost for Research, Addie and Al Macovski Professor, Professor of Bioengineering Lab website jennifer.cochran@stanford.edu</p>	
	<p>Agnieszka Czechowicz, MD, PhD Assistant Professor of Pediatrics (Stem Cell Transplantation) Lab website aneeshka@stanford.edu</p>	Stem cell biology, transplantation, cancer, genetic disease, bone marrow failure
	<p>Kyle Daniels, PhD Assistant Professor of Genetics Lab website kyledan@stanford.edu</p>	Research summary unavailable
	<p>Mark M. Davis, PhD Director, Stanford Institute for Immunity, Transplantation and Infection and The Burt and Marion Avery Family, Professor Microbiology and Immunology Lab website mmdavis@stanford.edu</p>	T cell recognition and human immunology
	<p>Edgar Engleman, MD Professor of Pathology and of Medicine (Immunology and Rheumatology) Lab website edengleman@stanford.edu</p>	Immune mechanisms in disease pathogenesis and treatment
	<p>Stephen J. Galli, MD Mary Hewitt Loveless, MD, Professor in the School of Medicine, and Professor of Pathology and of Microbiology and Immunology Lab website sgalli@stanford.edu</p>	The development of mast cells and basophils, and their roles in health & disease
	<p>K. Christopher Garcia, PhD Younger Family Professor and Professor of Molecular & Cellular Physiology, and of Structural Biology Lab website kcgarcia@stanford.edu</p>	Receptor signaling and structure
	<p>Andrew Gentles, PhD Assistant Professor of Pathology, and of Medicine (BMIR) Lab website andrewg@stanford.edu</p>	Computational systems biology of human disease
	<p>William Greenleaf, PhD Professor of Genetics Lab website wjg@stanford.edu</p>	Immune mechanisms in disease pathogenesis and treatment
	<p>Rogelio Hernandez-Lopez, PhD Assistant Professor, Bioengineering and of Genetics</p>	Understanding and engineering biomedical relevant cellular behaviors

	Lab website rogelioh@stanford.edu	
	Michael Howitt, PhD Assistant Professor of Pathology, and of Microbiology & Immunology Lab website mhowitt@stanford.edu	How intestinal microbes shape our immune system to promote both health and disease
	Prasanna Jagannathan, MD Assistant Professor, Medicine – Infectious Diseases and, of Microbiology & Immunology Lab website prasi@stanford.edu	Human immunology focused on malaria-specific immune responses in pregnancy and infancy
	Siddhartha Jaiswal, MD, PhD Assistant Professor of Pathology Lab website sjaiswal@stanford.edu	Aging of the hematopoietic and immune systems
	Ted Jardetzky, PhD Professor of Structural Biology Lab website tjardetz@stanford.edu	Structural biology of allergy and infectious disease
	Livnat Jerby, PhD Assistant Professor of Genetics Lab website ljerby@stanford.edu	Reprogramming immune responses across molecular and cellular modalities
	Anusha Kalbasi, MD Associate Professor of Radiation Oncology – Radiation Therapy Lab website akalbasi@stanford.edu	Treatment of sarcoma and melanoma, and to develop new ways to overcome resistance to immunotherapy
	Purvesh Khatri, PhD Associate Professor of Medicine (Biomedical Informatics Research), and of Biomedical Data Science Lab website pkhatri@stanford.edu	Translational bioinformatics approaches to translation medicine
	Peter S. Kim, PhD Virginia and D.K. Ludwig Professor of Biochemistry Lab website kimpeter@stanford.edu	Viral membrane fusion and its inhibition by drugs and antibodies
	Seung Kim, MD, PhD Professor of Developmental Biology, of Medicine – Endocrinology, Gerontology, & Metabolism Lab website seungkim@stanford.edu	Pancreas development, islet biology and disease mechanisms
	Sheri Krams, PhD Senior Associate Dean, Graduate Education and Postdoctoral Affairs and Professor of Surgery (Abdominal Transplantation)	NK cell biology, microRNAs, exosomes, CyTOF, transplantation

	Lab website smkrams@stanford.edu	
	Tobias Lanz, PhD Assistant Professor of Immunology & Rheumatology Lab website tlanz@stanford.edu	Research summary unavailable
	Ronald Levy, MD Robert K. and Helen K. Summy Professor in the School of Medicine, Professor of Medicine (Oncology) Lab website levy@stanford.edu	The immune system and cancer
	Billy Li, PhD Professor of Genetics Lab website jin.billy.li@stanford.edu	RNA editing: from biology to therapy
	Michael Lim, MD Professor of Neurosurgery Lab website mklim@stanford.edu	Understanding the mechanisms of immune suppression locally and globally in CNS tumors. We also have a strong interest in translational studies such as preclinical work for clinical trial design and correlative work on patient specimens from immunotherapy clinical trials.
	Sydney Lu, MD, PhD Assistant Professor of Medicine - Hematology Lab website sydneylu@stanford.edu	Research summary unavailable
	Crystal Mackall, MD Ernest and Amelia Gallo Family Professor and Professor of Pediatrics and of Medicine Lab website cmackall@stanford.edu	We focus on developing immune based therapeutics for the treatment of cancer
	Holden Maecker, PhD Professor of Microbiology and Immunology Lab website maecker@stanford.edu	Immune profiling: T cell response signatures to chronic pathogens and cancer
	Ravi Majeti, MD, PhD Director, Stanford Institute for Stem Cell Biology and Regenerative Medicine, RZ Cao Professor and Professor of Medicine (Hematology) Lab website rmajeti@stanford.edu	Characterization and targeting of leukemia stem cells in hematologic cancers
	Jonathan Maltzman, MD, PhD Associate Professor of Medicine (Nephrology) Lab website maltzman@stanford.edu	CD4+ memory T cell maintenance

	Olivia Martinez, PhD Johnson and Johnson Distinguished Professor of Surgery Lab website omm@stanford.edu	Viral immunity, EBV B cell lymphomas, immune regulation
	Eric Meffre, PhD Professor of Medicine - Immunology & Rheumatology Lab website emeffre@stanford.edu	Research summary unavailable
	Emmanuel Mignot, MD, PhD Craig Reynolds Professor of Sleep Medicine Lab website mignot@stanford.edu	Autoimmunity of the brain and narcolepsy
	Denise M. Monack, PhD Martha Meier Weiland Professor in the School of Medicine, Professor of Microbiology and Immunology Lab website dmonack@stanford.edu	Co-evolution of host immune mechanisms and pathogen virulence strategies
	Robert Negrin, MD Professor of Medicine (Blood and Marrow Transplantation and Cellular Therapy) Lab website negrs@stanford.edu	Hematopoietic cell transplantation, immune regulation and cellular immunotherapy
	Aaron Newman, PhD Assistant Professor of Biomedical Data Science Lab website amnewman@stanford.edu	Data-driven investigation of normal and neoplastic tissue composition
	Mark Nicolls, MD Professor of Pulmonary and Critical Care Medicine Lab website mnicolls@stanford.edu	Lung immunology in pulmonary hypertension and transplantation.
	Garry Nolan, PhD Rachford and Carlota Harris Professor of Microbiology and Immunology Lab website gnolan@stanford.edu	Single cell proteomics and genomics of cancer, stem cells, & autoimmunity
	Trung Pham, MD, PhD Assistant Professor, Pediatrics - Infectious Diseases Lab website tpham8@stanford.edu	Uncovering mechanisms of tissue immunity and immunophysiology during persistent infection
	Bali Pulendran, PhD Violetta L. Horton Professor and Professor of Microbiology and Immunology Lab website bpulend@stanford.edu	Understanding the fundamental mechanisms by which DCs control innate and adaptive immune responses

	<p>Nathan Reticker-Flynn Assistant Professor of Otolaryngology (Head and Neck Surgery) Lab website retickerflynn@stanford.edu</p>	<p>We investigate how tumors interact with the immune system during metastasis</p>
	<p>Bill Robinson, MD, PhD James W. Raitt, M.D. Professor of Medicine - Immunology & Rheumatology Lab website w.robinson@stanford.edu</p>	<p>Translational research in autoimmunity, with a focus on rheumatoid arthritis</p>
	<p>Judith Shizuru, MD Professor, Medicine of Blood & Marrow Transplantation, and of Pediatrics - Stem Cell Transplantation Lab website jshizuru@stanford.edu</p>	<p>Transplantation of blood forming stem cells, immune tolerance induction</p>
	<p>Michael Snyder, PhD Stanford W. Ascherman Professor of Genetics Lab website mpsyndy@stanford.edu</p>	<p>Gene regulation, omics and personalized medicine</p>
	<p>John B. Sunwoo, MD Edward C. and Amy H. Sewall Professor Professor of Otolaryngology (Head and Neck Surgery) Lab website sunwoo@stanford.edu</p>	<p>Understanding how NK cells, in the broader context of the host immune system, protect against developing and metastasizing tumor cells</p>
	<p>Hawa Racine Thiam, PhD Assistant Professor of Bioengineering, and of Microbiology & Immunology Lab website hrthiam@stanford.edu</p>	<p>Cellular biophysical mechanisms of innate immune cells functions</p>
	<p>Paul Utz, MD Professor of Medicine (Immunology and Rheumatology) Lab website pjutz@stanford.edu</p>	<p>Protein arrays, biomarkers, autoantibodies, influenza, COVID-19, autoimmunity</p>
	<p>Taia T. Wang, MD, PhD Assistant Professor of Medicine (Infectious Diseases) and of Microbiology and Immunology Lab website taiawang@stanford.edu</p>	<p>Mechanisms in human immunity and disease</p>
	<p>Irving Weissman, MD Virginia & D.K. Ludwig Professor for Clinical Investigation in Cancer Research, Professor of Developmental Biology Lab website irv@stanford.edu</p>	<p>Clonal events leading from HSC to leukemia stem cells</p>

Index

Overview of Program Training

	Tasks	Research	Coursework	Teaching
Year 1	<ul style="list-style-type: none"> - Take required & elective classes - Choose Thesis Lab - Submit Student Lab Rotation Evaluation Form 	<p>40%</p> <p>3 lab rotations</p>	<p>60%</p> <ul style="list-style-type: none"> - Immunology Startup - Attendance at Annual Asilomar Scientific Conference - Foundations - Faculty Research Presentations - Scientific Conduct (Med 255) - MCTI Core - CSI Core - Rotations Presentations (mid-June) 	<p>0%</p>
Year 2	<ul style="list-style-type: none"> - Pass qualifying exam - Submit Qualifying Exam Part II/Dissertation Proposal Form - Submit Application for PhD Candidacy 	<p>70%</p> <p>Dissertation research</p>	<p>25%</p> <ul style="list-style-type: none"> - Qualifying Exam: General Oral Exam & Research Proposal, before Dec 17th - Attend Science-in-Progress (SIP) – student seminars - Annual Asilomar Scientific Conference (talk or poster) - MCTI Core/Elective - CSI Core 	<p>5%</p> <p>Teaching assistantships</p>
Year 3	<ul style="list-style-type: none"> - Submit Annual Dissertation Committee Meeting Form 	<p>90%</p> <p>1 thesis committee meeting</p>	<p>5%</p> <ul style="list-style-type: none"> - Annual Scientific Conference (talk or poster) - Science-in-Progress (SIP) – student seminar presentation - CSI Core/Electives 	<p>5%</p> <p>Teaching assistantships</p>

Year 4	<ul style="list-style-type: none"> - Submit TGR Status Request Form via Axess in Spr or Sum quarter - Submit Doctoral Dissertation Reading Committee Form - Submit Annual Dissertation Committee Meeting Form 	90%	<p>2 thesis committee meeting</p>	5%	<ul style="list-style-type: none"> - Annual Scientific Conference (talk or poster) - Science-in-Progress (SIP) – student seminar presentation - CSI Core/Electives 	5%	Teaching assistantships
---------------	--	------------	-----------------------------------	-----------	---	-----------	-------------------------

Year 5+	<ul style="list-style-type: none"> - PhD Orals Dissertation Defense - Submit Annual Dissertation Committee Meeting Form - Submit Oral Examination Form 	100%	<p>2 thesis committee meetings (Grad. program committee member must be present)</p>	0%	<ul style="list-style-type: none"> - Annual Scientific Conference (talk or poster) - Science-in-Progress (SIP) – student seminar presentation - Petition to defend - Dissertation defense - Submission of the Dissertation to the Registrar by the University deadline; if deadline is missed, submit “Graduate Quarter” petition 	0%	
----------------	---	-------------	---	-----------	--	-----------	--