



STUDENT HANDBOOK

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<https://www.cuanschutz.edu/graduate-programs/molecular-biology>

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Program Guidelines Disclaimer

As a member of the Molecular Biology PhD Program, you are expected to adhere to all established policies and procedures of the [University](#), the [Office of Research Education \(ORE\)](#), the [Graduate School](#) and this PhD Program.

For any policies, please make sure to review the [Graduate School Policies and Procedures](#).

This handbook, which includes parts of the Graduate School Rules and the Molecular Biology Program Guidelines, does not constitute a contract with the University of Colorado Anschutz Medical Campus Graduate School, either expressed or implied. The Molecular Biology Program reserves the right at any time to change, delete, or add to any of the provisions at its sole discretion. Furthermore, the provisions of this document are designed by the Program to serve as firm guidelines rather than absolute rules, and exceptions may be made on the basis of extenuating circumstances.

Program Overview

Mission of Program: To foster excellence in molecular biology at the University of Colorado School of Medicine and at the Graduate School.

Vision Statement for Program: The Molecular Biology Program at the University of Colorado Anschutz Medical Campus is one of the premiere molecular biology training programs nationally. This is accomplished through the enhancement of creative, original research as presented in well-recognized journals and at national symposia; by increasing the level of peer-reviewed support; and through the influence of our graduates and their accomplishments. We recognize that the achievement of our goals is inseparable from the recruitment and training of the highest quality graduate students; thus, these activities represent our primary vehicle. Since success of the program is dependent upon the dedicated individual efforts of our faculty, the program facilitates their efforts by (i) fostering communication and interaction among all molecular biology researchers, (ii) providing a resource for the dissemination of information regarding the application of molecular biology to all areas of medical research, (iii) helping to increase funding of the program membership, (iv) providing common facilities and shared instrumentation, and (v) enhancing faculty recruitment by individual departments. These achievements are realized through full open participation of all program members as a team in which each member has the opportunity to influence the direction of the program and recognizes their individual responsibility to work in support of the program's activities.

About the Program: The Molecular Biology Program at the University of Colorado Anschutz Medical Campus is dedicated to providing rigorous training to its students in a supportive environment. The molecular biology faculty are members of fourteen different departments who are applying the techniques of molecular biology to answer questions in diverse areas at the forefront of modern biology. The Program offers a unique opportunity to study a wide variety of research areas in a student-centered environment, all in the inviting setting of Denver, Colorado, just a short distance from the Rocky Mountains.

Molecular biology, the science of how living things work at the molecular level, has spearheaded the recent revolution in our understanding of human disease and led to the birth of a major new industry based on biotechnology. The goal of the Molecular Biology Program at CU is simple: to equip students for careers at the cutting edge of biology. The faculty are committed to providing students with the training they need to carry out the highest quality research using state-of-the-art techniques. The teaching philosophy here is to instill the theoretical knowledge and practical experience that enables our students to identify important questions in science, to design experiments that address those questions and to critically evaluate results.

Special emphasis is placed on learning to communicate research results to others effectively. Previous graduates of the program are now working in academic, medical and biotechnology industry positions.

Molecular Biology Program faculty include members of the Departments of Biochemistry and Molecular Genetics, Cell and Developmental Biology, Medicine, Immunology and Microbiology, Pathology, Pharmacology, Pediatrics, Craniofacial Biology, Pharmacy, and Obstetrics/Gynecology and include internationally recognized experts in genetics, genomics, immunology, virology, developmental biology, cancer biology, molecular endocrinology, cell signaling, and structural biology. Their diverse interests provide students with an enormous choice of areas in which to pursue their thesis research.

The Molecular Biology Program provides students with more than classroom and research training. Students learn to present their research by participating as featured speakers in the program's excellent seminar series. Students are encouraged to interact with the seminar series' invited guests during student-centered social hours. An annual retreat to the Rocky Mountains encourages interaction between students and faculty and familiarizes the students with the research goals and progress of each faculty member. Also, the MOLB program, along with the university, continues in its efforts to increase the number of minorities, disabled, and disadvantaged students, with the goal of training all students to become important contributors to the biomedical research field and their communities.

The training of each graduate student is carefully monitored by a committee selected by the student to ensure completion of a top-quality PhD thesis project in a timely fashion (five to six years on average). Because these committees are comprised of faculty from different departments, the committee meetings have always sparked exciting discussions of the student's research.

The Molecular Biology Program has been recognized as a Center of Excellence at the University of Colorado School of Medicine. A \$5 million grant awarded in 1989 by the Lucille P. Markey Charitable Foundation allowed the program to grow and mature. In 1999, the program was awarded a highly competitive NIH pre-doctoral training grant that was renewed in 2004, 2010, 2015, 2020, and 2025 providing the funding to support and train students for years to come.

In 2001, the Program secured an endowment, the “Bolie Gift Fund”, to provide travel funding for MOLB students to participate in national and international conferences and workshops. To date, more than 91 students have attended meetings or workshops with support from the Bolie Fund. The Bolie Fund also supports an annual, student hosted distinguished Bolie lectureship. In 2011, Dr. Victor Bolie passed away and left a generous endowment to our program. Starting in 2013, the “Earleen and Victor Bolie Scholarship Fund” supports stipends for up to 3 students per year (based on anticipated income from this ~\$2 million endowment).

Office of Research Education Contacts

Program Director: Neelanjan Mukherjee, PhD

- neelanjan.mukherjee@cuanschutz.edu

Program Co-/Associate Director: Michael McMurray, PhD

- michael.mcmurray@cuanschutz.edu

ORE Program Administrator: Carley Surina, MA

- carley.surina@cuanschutz.edu

Office of Research Education (located in the Fitzsimons Building, 1st floor East. Q20-E1334)

Angie Ribera: Associate Dean of Research Education, angie.ribera@cuanschutz.edu

- Point of contact for faculty, program, and organizational concerns and planning

Andy Bradford: Assistant Dean of Student Affairs, andy.bradford@cuanschutz.edu

- Point of contact for student and related concerns

Jodi Cropper: Business Services Program Director, jodi.cropper@cuanschutz.edu

- Point of contact for financial and organizational planning concerns and coordination

Morgan Texeira: Program Manager, morgan.teixeira@cuanschutz.edu

- Point of contact for program specific concerns and additional point of contact for Program Administrators

Miriam Venzor: Academic Services Coordinator, miriam.venzor@cuanschutz.edu

- Point of contact for general administrative concerns, event planning and meeting scheduling

The Graduate Advisory Committee (GAC)

The Graduate Advisory Committee (GAC) supports MOLB students and organizes much of student life in the program. Its work runs through three arms: mentoring, social activities, and career development.

Mentoring

The GAC mentors students through structured, year-based pairings. Each first-year student is assigned two mentors, a dedicated faculty member and an upper-class student, who help them settle in, choose rotations, and navigate first-year coursework and the Preliminary Examination. Second-year students are then mentored by third-year students through peer mentoring. These relationships are meant to continue into later years, when the comprehensive exam, program presentations, and fellowship preparation bring their own pressures. Beyond the assigned pairings, any student can reach out to the GAC chair or another GAC

mentor for guidance at any time. The full mentoring plan, including mentor responsibilities and the reporting form, is in Appendix 4.

Social activities

Social activities are organized by the Social Committee, a group of students who run events throughout the year to bring the MOLB community together. Recent events have included ice cream and coffee socials, a fall pumpkin-carving contest, trivia night, cookie decorating, and a food-truck social. The Social Committee also runs the program's Slack group.

Career development

Career development is led by the Career Development Committee, another GAC subcommittee that helps students explore and prepare for a range of career paths. The committee runs the program's two annual career events, the Career Panel in the spring and a networking event in the fall, and maintains a growing set of resources:

- a career events calendar;
- example CVs, resumes, and cover letters, with tips for writing these materials and for finding jobs;
- a faculty LinkedIn network database (under development);
- ongoing working relationships with the professionals invited for panels and events;
- the MOLB LinkedIn group.

BSP, MSTP & Direct Admit Requirements

Students transferring to Molecular Biology from the Biomedical Sciences (BSP) or Medical Scientist Training (MSTP) programs may have different credit/course requirements. Applications for transfer will be evaluated based on thesis lab availability, transcripts, and performance on the preliminary exam and in rotation labs. It is important to understand that transfer from either program into Molecular Biology depends on a Molecular Biology faculty member agreeing to accept the student into her/his lab for their thesis work.

MSTP Students should enter a thesis lab with 27-33 graduate credits, including graduate core. They have also completed/will complete the MSTP Preliminary Course focused on grant writing in Spring term of their transfer year. This course covers F31 grants, but also F30 grants which are specific to dual-degree trainees. The MSTP administration will review student transcripts with the PhD Program Administrator at time of transfer and will confirm that all expected graduate credits have posted for program review and evaluation.

MSTP students have already selected and been accepted into a thesis lab within the selected PhD program. They will enter the program under this lab's support immediately upon transfer and should not incur charges to the PhD program at any point in training absent the need for gap funding/support. As such please consider this transfer to be equivalent to a second year PhD student. Time to degree is a very important metric for the NIH and the program's T32 grant. MSTPs are expected to complete their PhD training within four years of entering lab. Of course, mitigating circumstances can occur. The MSTP Administration should be alerted to any significant progress concerns which may impact a student's

ability to graduate within the expected time frame. This can be accomplished by meeting, email, or committee meeting notes as appropriate.

- MSTP students should contact MSTP Administration to obtain the program specific lab mentor agreement to review lab mentor responsibilities, curriculum requirements and other expectations related to the research portion of training. **MSTP students must have thesis committee meetings every 6 months** regardless of their PhD program. Each MSTP student's thesis committee should have a faculty member representing MSTP. Students should discuss MSTP faculty representation with the Director or Associate Program Director to identify suitable candidates.
- Throughout the Thesis stage of training, MSTPs are required to register for the *Longitudinal Foundations of Doctoring* (FOD) course in 2 terms annually (Fall and Spring). They will enroll into the *Capstone Return-to-Clinics* course in their last year of thesis training, replacing FOD in the spring term. The MSTP mentor is responsible for covering the costs for these courses and agrees to this as part of the MSTP-specific mentor letter.

Curriculum Overview

Year-by-Year Responsibilities at a Glance

This table summarizes each year's main requirements and program responsibilities; the year sections below and the Program Events and Activities section give the details.

Year	Academic requirements & milestones (<i>seminar presentation times are approximate</i>)	Additional program events & service role <i>*Weekly seminar, annual retreat, and Round Table participation are required for all students*</i>
Year 1	Required coursework; three lab rotations; establish Colorado residency; pass the Preliminary Examination (June); select thesis lab.	None
Year 2	Second-year coursework; present spring research seminar; form Thesis Advisory Committee by March; pre-comps committee meeting.	Begin participating and organizing Round Table.
Year 3	Pass the Comprehensive Exam by the end of fall; present fall research seminar; annual committee meeting.	None
Year 4	Present fall research seminar; annual committee meeting; complete the RCR refresher (by year 5).	Organize the annual retreat; may serve on the Career Development Committee, which organizes the Career Panel
Year 5+	Complete and defend the dissertation (ideally by the end of year 5); at least one accepted first-	May serve on the Career Development Committee, which organizes the Career Panel

	author publication before the defense; annual committee meetings.	
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Registration Process

- [Academic Calendars](#) (see The Graduate School calendar)
- [Register for Classes](#) (see The Graduate School)
 - All basic science PhD students must register in a minimum of 5 credits (fall and spring semesters), 1 credit of 8990 (summer semester), and anything above the minimum credit level will need approval from faculty mentor.
 - First year students, BSP and MSTP students should work with their program directors, program administrators, and faculty mentors as there will be additional credit requirements associated with their progress in the program.
 - The paying of tuition, fees and student health insurance occurs the week following the deadline for semester add/drop period, which can be found on the [academic calendar](#). The Program Administrator will complete the process of submitting the appropriate form to the Bursar's Office. For those students receiving financial aid, please work with the Program Administrator to avoid any disruption in aid awarding.

Year 1

Fall Semester		
Course Title	Registration Information	Credits
Foundations in Biomedical Science	BMSC 7806	6
Core Topics in Biomedical Sciences – A (student may select topic)	Options: BMSC, 7830, Protein Structure & Function BMSC, 7831, Microbiology Biomed Research BMSC, 7832, Inflammation BMSC, 7833, Evolution Genetics & Genomics BMSC, 7835, Stem Cell Biology to Regenerative Medicine	2
Core Topics in Biomedical Sciences – B (student may select topic)	Options: BMSC, 7834, Introduction to Animal Models and Experiments in Developmental Biology BMSC, 7836, Gene Regulation & RNA Biology in Disease BMSC, 7837, Microbiome: Health & Medicine BMSC, 7838, Principles of Cancer Biology	2
Rotation 1	MOLB 7650 (001)	1

Rotation 2	MOLB 7650 (002)	1
Spring Semester		
Course Title	Registration Information	Credits
Advanced Topics in Molecular Biology	MOLB 7800	4
Required Elective	Students are encouraged to speak to their rotation lab or GAC faculty mentors, along with current program students.	Variable
Rotation 3	MOLB 7650 (001)	1
Summer Semester		
Course Title	Registration Information	Credits
Doctoral Thesis	MOLB 8990	1
Research (Pre-Comps) if instructed to register	MOLB 7650	3

First Year Requirements:**Coursework**

During the first year, students complete the following required coursework:

- Foundations in Biomedical Sciences (BMSC 7806) – 6 credits (Fall)
- Core Topics in Biomedical Sciences A & B – 4 credits total (Fall; 2 credits per topic)
- Research in Molecular Biology (MOLB 7650) – 3 credits total (Fall Sections 001 & 002; Spring Section 001)
- Advanced Topics in Molecular Biology (MOLB 7800) – 4 credits (Spring)
- One elective course (Spring)

No summer classes are required. However, students must register for 1 credit of MOLB 8990 or 3 credits of MOLB 7650, if instructed.

The Foundations in Biomedical Sciences (BMSC 7806) and Core Topics in Biomedical Sciences (A & B) courses are required for all first-year PhD students at CU Anschutz and provide instruction in the fundamentals of biochemistry, cell biology, molecular biology, and genetics. Molecular Biology students complete Responsible Conduct of Research (BMSC 7811) during the fall semester of their second year.

Students also complete one elective course during the spring semester. Electives should align with the student's research interests and be selected in consultation with their GAC faculty mentors. Students are encouraged to discuss elective options with faculty mentors, current students, and rotation laboratories, as well as review course announcements and the online course catalog.

Advanced Topics in Molecular Biology (MOLB 7800)

MOLB 7800 prepares students to critically evaluate scientific literature, design research projects, and communicate research through written proposals. The course also serves as preparation for the

Preliminary Examination. Topics vary each year but typically include nucleic acids, chromatin structure, DNA replication, RNA transcription and processing, and molecular cell biology. MSTP students transferring into the MOLB program are not required to take this course.

The course is organized as follows (course directors may adjust the schedule as needed):

1. Course Introduction: Overview of course goals, expectations, grading, and assignments.
2. Grant Writing Introduction: Students are introduced to research proposal writing and begin preparing short proposals.
3. Scientific Topic Blocks: Three content blocks focus on specific areas of molecular biology. Each block includes an introductory lecture, 5–6 journal article discussions, and a proposal discussion session. Students write a short proposal for each block, which is critiqued by faculty and classmates.
4. Final Proposal Block: Students expand one of their earlier mini-proposals into an approximately seven-page proposal formatted similarly to an NIH F31 fellowship application. The proposal includes a section addressing rigor, repeatability, and reproducibility. Final grades are based on the quality of the proposal, peer critiques, and class participation.

In-state Residency Status

U.S. citizens and permanent residents are expected to establish Colorado residency during their first year in the program. Beginning in the second year, only in-state tuition will be covered (assuming satisfactory academic progress). Students who do not establish Colorado residency may be responsible for the difference between in-state and out-of-state tuition. See the Registrar's Residency webpage for more information: <https://www.cuanschutz.edu/registrar/residency>

Research Rotations

Students are required to complete research rotations in the laboratories of three different MOLB faculty members. Each rotation lasts approximately ten weeks and is conducted during the fall and spring semesters. Students enroll in MOLB 7650: Research in Molecular Biology for one credit during each rotation. During the fall semester, students register for Sections 001 and 002, and during the spring semester they register for Section 001.

Research rotations are designed to expose students to different areas of molecular biology, introduce a variety of experimental techniques and research environments, develop critical scientific thinking and experimental design skills, and assist students in selecting a thesis laboratory.

Seminar Program

The program holds a weekly seminar in which faculty, postdoctoral fellows, students and invited outside speakers present talks on their research. Students do not register for this course in the first year but are required to attend.

Retreat

All students attend the annual two-day scientific retreat (see Program Events and Activities).

Career Panel

The Career Panel is held each spring, and attendance is required (see Program Events and Activities).

Preliminary Examination (See more detailed guidelines in Examinations and Evaluations)

At the completion of the first year, students must take a Preliminary Examination which is required by the Graduate School and facilitated by each program for their students. The Preliminary Examination format is in the form of a written mini-proposal, which is defended in a one-hour oral exam, administered in or around the third week of June by a standing committee within the program.

Evaluation and Selection of Thesis Advisor

The program faculty will evaluate the overall performance of the student based on three areas: course work, laboratory rotations and the preliminary examination. This will take place at the general faculty meeting in late June. Upon successful completion of this evaluation, students then select a thesis advisor and a project. Selection of the thesis advisor should be the mutual decision of the student and the program faculty member. If a student does not match with a thesis advisor by the end of the third rotation, a fourth rotation in the summer can be performed (see Appendices 8 & 9) with the approval of the Program Director and ORE, provided the student is otherwise in good standing in the Program (B or better in all required courses and has passed the Preliminary Examination). The Program will make every effort to assist a student in finding a suitable thesis advisor. Nonetheless, matriculation into a thesis lab is required for continuation into the second year in the Molecular Biology Graduate Program.

Graduate Advisory Committee (GAC)

Students in their first year should consult on a regular basis with the GAC. This provides a mechanism for continuous rapport to be established between one faculty member and students throughout the critical first year. This permits continuous monitoring of potential problems and a useful way for students to have input into the program. The GAC consults regularly with program faculty regarding student questions and concerns.

Program Transfers

For students matriculating directly into a Basic Science PhD Program, there is an expectation that you will remain in that Program. You have matriculated into that Program by virtue of having applied and been accepted. Thus, there is a substantial bilateral commitment. Transferring from a Program, at any point, is actively discouraged. If there are issues with an individual mentor or a perceived lack of research laboratory options, it is expected that solutions will first be explored within the Program. Program transfer will only be approved under exceptional circumstances, and then only after successful completion of the preliminary exam at the end of the first year.

Year 2

Fall Semester		
Course Title	Registration Information	Credits
Research (Pre-Comps)	MOLB 7650 sec. OV3	1-5 (variable)
Responsible Conduct of Research	BMSC 7811	1
Research Seminar Program	MOLB 7661	1

Biostatistics and Informatics	MOLB 7950	4
Spring Semester		
Course Title	Registration Information	Credits
Research (Pre-Comps)	MOLB 7650 sec. OV3	1-5 (variable)
Rigor and Reproducibility in Biomedical Research	BMSC 7812	1
Research Seminar Program	MOLB 7661	1
Optional Electives	Choose from online Course Catalog and with the input of the MOLB Faculty Mentor	Varies
Summer Semester		
Course Title	Registration Information	Credits
Doctoral Thesis	MOLB 8990	1

Second Year Requirements:**Course Work**

During the second year, students complete the following required coursework:

- Responsible Conduct of Research (BMSC 7811) – 1 credit (Fall)
- Biostatistics and Informatics (MOLB 7950) – 4 credits (as offered)
- Research Seminar Program (MOLB 7661) – 1 credit each semester (Fall & Spring)
- Research in Molecular Biology (MOLB 7650, Section OV3) – Variable credits each semester (Fall & Spring)
- Rigor and Reproducibility in Biomedical Research (BMSC 7812) – 1 credit (Spring, Pass/Fail)
- Additional elective coursework, selected in consultation with the GAC and Thesis Advisor, to develop expertise in the student's research area and broaden scientific knowledge.

The seminar course (MOLB 7661) is graded based on participation, and the spring semester grade is partially based on the student's research seminar presentation.

Program requirements stipulate that students must accumulate or be registered for at least 28 credits prior to taking the comprehensive exam, scheduled no later than the end of fall semester of the third year. Thus, students are urged to transfer credits for any graduate level courses taken from their previous universities. Please check your didactic credits to make sure that you are on track for 28 credits minimum for the comprehensive exam in the fall semester of your 3rd year. Courses graded as Pass/Fail will not count towards the 28 credits.

No summer classes are required, but MOLB students must register for 1 credit of MOLB 8990 to be considered full-time.

Research Seminar

The program holds a weekly seminar in which faculty, postdoctoral fellows, students and invited outside speakers present talks on their research.

In the spring, second year students present a seminar on their research in progress. This is given as part of the program's weekly research seminar series. This serves to focus the student's research project and to provide training in oral presentation skills. Students should meet with their thesis advisory committee immediately following the spring seminar presentation.

Second year students will register for a course (MOLB 7661) and receive credit for attending the seminars.

Retreat

All students attend the annual two-day scientific retreat (see Program Events and Activities).

Career Panel

The Career Panel is held each spring, and attendance is required (see Program Events and Activities).

Round Tables

Beginning in the second year and throughout the remainder of the training program, all students are expected to participate and help organize Round Table Journal Club. Round Table Journal Club is a monthly meeting that will be held once a month (September – May). The Molecular Biology Program will provide light snacks. Training grant appointed students will serve as coordinators and decide on a topic and the guests to be invited. The basic format is flexible, but generally one or two students (from any year) will present a paper of their choice to be discussed by all participating students. Alternatively, a student may choose to present their research project or an idea about new possibilities. Twice a year (once every semester) students will invite a local outside speaker of their choice. Generally, the goal is for students to learn about a new area of interest, including alternative career options. Thus, speakers may be either academic researchers, representatives of industry or other potential alternative career pathways.

Selection of Thesis Advisory Committee (See more detailed guidelines in Appendix 6)

Students are expected to form a Thesis Advisory Committee by March of their second year in consultation with both their thesis advisor and the MOLB Graduate Advisory Committee (GAC) Advisor.

The committee consists of at least four members (four is recommended), with at least three members drawn from the MOLB Program faculty. The Committee Chair must be a member of the MOLB Program faculty. All committee members must hold active appointments with the Graduate School. It is the student's responsibility to verify that each proposed committee member has an active Graduate School appointment before the committee is formed.

Additional committee members may be added during the course of the student's dissertation research to provide specialized expertise when needed.

Following successful completion of the Comprehensive Examination and advancement to PhD candidacy, the student's thesis mentor may become a member of the committee, replacing one of the original committee members if appropriate. The thesis mentor may serve as a voting member of the committee but may not serve as Committee Chair.

Initial Committee Meeting

The Thesis Advisory Committee should hold its first meeting with the student in the spring semester of the second year, ideally on the afternoon following the student's spring seminar presentation or as soon thereafter as possible.

During this initial meeting, the committee will:

- Evaluate the student's research progress to date.
- Provide guidance on the student's dissertation project.
- Discuss the format and expectations of the Comprehensive Examination.
- Establish guidelines for the Comprehensive Examination.
- Set a tentative date for the Comprehensive Examination.

This initial meeting serves as the student's Pre-Comprehensive Examination Meeting, providing an opportunity for the student to introduce themselves and their research project, receive feedback from the committee, and ensure that both the student and committee have a shared understanding of the Comprehensive Examination format and requirements.

MSTP Specific

Please work with MSTP Administration and PhD Program Administration to complete the required mentorship agreement for transitioning into a lab.

Year 3+

- Minimum registration requirement for full-time graduate students is 5 credits. Anything above 5 credits must be approved by faculty mentor.

Fall Semester		
Course Title	Registration Information	Credits
Doctoral Thesis	MOLB 8990	1-5 (variable)
Optional Electives	Choose from online Course Catalog and with the input of the MOLB Faculty Mentor	Variable
Spring Semester		
Course Title	Registration Information	Credits
Doctoral Thesis	MOLB 8990	1-5 (variable)
Optional Electives	Choose from online Course Catalog and with the input of the MOLB Faculty Mentor	Variable
Summer Semester		
Course Title	Registration Information	Credits
Doctoral Thesis	MOLB 8990	1

Third Year Requirements:

During the third year, students complete the following coursework:

- Research in Molecular Biology (MOLB 7650, Section OV3) – 5 credits (Fall), if additional research credits are needed to complete the required 28 research credits prior to the comprehensive examination.
- Doctoral Thesis in Molecular Biology (MOLB 8990) – 5 credits each semester after completing the required 28 research credits (which may be met through additional electives or approved transfer credits), continuing through the remainder of the program.

No summer classes are required, but MOLB students must register for 1 credit of MOLB 8990 to be considered full-time.

Comprehensive Examination:

By the second year, students are expected to have demonstrated competence in research and generated sufficient preliminary data to prepare for the Comprehensive Examination (see Examinations and Evaluations for detailed guidelines). The examination consists of two components:

- A written research proposal describing the student's proposed dissertation project.
- An oral defense of the proposal before the student's advisory committee.

Successful completion of the Comprehensive Examination advances the student to PhD candidacy.

Written Proposal

The written proposal should follow the current NIH F31/NRSA fellowship format and include the following sections. Preliminary data is important and can be its own section or presented within Significance or Approach:

- Specific Aims
- Significance
- Innovation
- Approach
- Rigor and Reproducibility
- References

The overall direction of the project should be developed in consultation with the student's thesis advisor. However, at least one specific aim must represent the student's own scientific ideas. Students should consult both their advisory committee chair and current NIH guidance while preparing the proposal.

The proposal should reflect realistic and achievable goals for the student's dissertation research rather than an overly ambitious research program.

Prior to submission, the thesis advisor may review the proposal and provide general feedback. Students are also encouraged to seek general feedback from colleagues; however, the proposal must ultimately represent the student's own work.

Oral Examination

During the oral examination, students will defend their research proposal and demonstrate their general scientific knowledge by answering questions related to the proposed research project.

The format of the oral examination is determined by the advisory committee chair.

During the examination, both the student and the thesis advisor will each be asked to step out of the room individually to allow the committee an opportunity to discuss any concerns privately.

Upon successful completion of both the written and oral portions of the Comprehensive Examination, the student will be advanced to PhD candidacy.

Eligibility and Scheduling

To schedule the Comprehensive Examination, students must have completed, or be registered to complete, 28 letter-graded credit hours.

Students must obtain written approval of their proposal topic from the chair of their advisory committee before beginning preparation of the written proposal. This approval typically occurs following the Pre-Comprehensive Examination meeting held during the previous spring semester (see above). The approved topic must also be submitted to the MOLB Program Office.

Students are responsible for obtaining the required Comprehensive Examination forms and instructions from the Graduate School website. All completed forms, including the required signatures, must be submitted to the Graduate School at least one month before the examination date.

The completed written proposal must also be distributed to all committee members at least two weeks prior to the oral examination.

Students are required to complete the Comprehensive Examination no later than the end of the fall semester of their third year. However, completing the examination earlier during the summer or fall semester is strongly encouraged.

Research Seminar

In the fall semester (if the schedule permits) of the third year, students present a seminar on their research progress at the weekly program seminar series. Students do not register for Research Seminar for credit in the third year or in subsequent years, but attendance at the weekly research seminars is mandatory. Students must meet with their thesis advisory committee immediately following their annual seminar presentation.

Retreat

All students attend the annual two-day scientific retreat (see Program Events and Activities).

Round Tables

As in the second year, students are expected to participate in the Round Table sessions.

Career Panel

The Career Panel is held each spring, and attendance is required (see Program Events and Activities).

Fourth Year and Beyond Requirements:

During the fourth year and beyond, students complete the following coursework:

- Doctoral Thesis in Molecular Biology (MOLB 8990) – 5 credits each semester through completion of the program.

- Responsible Conduct of Research Refresher (BMSC 7811) – Required at least once every four years in accordance with NIH guidelines; students are encouraged to complete the refresher by their fifth year.

No summer classes are required, but MOLB students must register for 1 credit of MOLB 8990 to be considered full-time.

Students are also expected to:

- Meet with their Thesis Advisory Committee at least once annually (more frequent meetings are encouraged as the dissertation nears completion).
- Continue participating in the weekly seminar series, Round Table, and the annual MOLB retreat (fourth-year students organize the retreat).
- Participate regularly in their research group's meetings and activities.
- Present their research at regional, national, and/or international scientific meetings whenever possible.
- Develop increasing independence in research, leadership, and professional development while preparing for dissertation defense and postdoctoral or career opportunities.

Research Seminar

In the fall of the fourth year, students present a seminar on their research progress. This is presented as part of the program's weekly research seminar series. This serves to focus the student's research project and to provide training in oral presentation skills. Students must meet with their committee following seminar presentations or as soon as possible thereafter.

Retreat

All students attend the annual two-day scientific retreat; fourth-year students organize it (see Program Events and Activities).

Round Tables

Students are expected to continue participation in the round tables.

Thesis/Dissertation (See more detailed guidelines in Examinations and Evaluations)

The thesis defense is the final requirement for completion of the PhD and consists of a written dissertation and an oral defense before the Thesis Advisory Committee. Students are responsible for meeting all Graduate School deadlines and program requirements, including committee composition, required forms, dissertation formatting, and defense logistics.

Examinations and Evaluations

Preliminary Examination

All first-year students complete the Preliminary Examination at the end of their first year in the program. BSP students intending to join MOLB participate in the MOLB Preliminary Examination. For MSTP trainees transferring into MOLB, the MSTP preliminary examination is accepted as equivalent to the

MOLB Preliminary Examination; MSTP trainees complete the MSTP-specific preliminary examination prior to transferring into the program.

The Preliminary Examination consists of a written research proposal followed by a one-hour oral examination. The examination is typically administered in or around the third week of June by a standing committee of Molecular Biology Program faculty.

The examination process is as follows:

1. Students are provided with a set of 3–5 scientific papers centered on a single research topic.
2. Students prepare an NIH/NRSA-style fellowship proposal based on the assigned papers. The proposal consists of:
 - One-page Specific Aims
 - Up to six pages of Research Strategy
 - One additional page addressing rigor, repeatability, and reproducibility, including a detailed Methods section
 - Organization using standard NIH/NRSA proposal sections is recommended.
3. Students are given approximately 3–4 weeks to prepare the proposal.
4. Preparation for the examination is incorporated into MOLB 7800: Advanced Topics in Molecular Biology, which includes instruction on grant-writing fundamentals, proposal development, and examination expectations.
5. A standing, rotating committee of five Molecular Biology Program faculty members selects the topic and assigned papers, evaluates the written proposals, and conducts the oral examinations. Each student is assigned a faculty mentor from the committee. Faculty mentors typically work with no more than two students and provide broad guidance on proposal content during the preparation period.

Evaluation

Students are evaluated on a Pass or Fail basis.

- Pass: A student must receive affirmative votes from a majority of the examination committee members.
- Pass with Conditions: The committee may determine that the student has demonstrated satisfactory performance but must complete additional work, such as revising portions of the proposal or completing additional coursework. The examination is recorded as a pass with conditions. Once the required conditions have been completed to the committee's satisfaction, the committee chair provides final approval.
- Fail: Students who do not pass the examination are permitted one opportunity to retake the examination within approximately 2–3 months. The retake may consist of revising and resubmitting portions of the proposal based on committee feedback and defending those revisions, or another format determined by the examination committee.

MOLB 7800: Advanced Topics in Molecular Biology (4 credits)

This spring semester course teaches graduate students to critically evaluate scientific literature and develop scientific writing skills. A dedicated component of the course prepares students for the Preliminary Examination through instruction in grant-writing principles, proposal development, and examination strategies.

Comprehensive Exam

- [App Candidacy form](#)
- [Exam request form](#)
 - Once a date has been set with your Advisory Committee, you must contact your Program Administrator to initiate forms. You will also discuss room bookings at this time. All forms must be submitted to the Administrator at least a month prior to the exam date.
- As you prepare for your Comprehensive Exam, please ensure that all your committee members have a faculty appointment listed in the [Graduate School Faculty Directory](#).
- All forms are found in the Graduate School website under the "Forms" section.
 - [Graduate School - Resources & Forms - CU Anschutz](#)

Students are expected to have demonstrated competence in research during their second year and to have generated sufficient preliminary data to prepare for the Comprehensive Examination (see Examinations and Evaluations for detailed guidelines). The examination consists of the written submission of a research proposal describing the student's proposed dissertation research, followed by an oral defense.

The written proposal should follow the current NIH F31/NRSA fellowship style and format and include the following sections: Specific Aims, Significance, Innovation, Approach, Rigor and Reproducibility, and References. Preliminary data is important and can be its own section or presented within Significance or Approach.

The proposal should reflect realistic goals for the student's dissertation research rather than an overly ambitious research program. Prior to submission, the thesis advisor may review the proposal and provide general feedback. Students are also encouraged to seek general feedback from colleagues; however, the proposal should represent the student's own work.

Before beginning preparation of the written proposal, students must obtain written approval of their proposal topic from the chair of their advisory committee. This approval is typically obtained following the pre-comprehensive examination meeting held during the previous spring semester. The approved proposal must be submitted to committee members at least two weeks prior to the examination.

To schedule the examination, students must have completed or be registered for 28 letter-graded credit hours. Students are responsible for obtaining the required Graduate School forms and instructions from the Graduate School website and submitting all completed forms with the appropriate signatures by the Graduate School deadline. Students are required to complete the Comprehensive Examination no later than the end of the fall semester of their third year, although completing the examination during the summer or early fall is encouraged.

During the oral examination, students will defend their proposal and demonstrate both a thorough understanding of their proposed research and the scientific literature supporting the project. Students should be prepared to critically evaluate and defend their experimental approach and respond to questions from members of the examination committee. The format of the oral examination is determined by the committee chair. During the examination, both the student and the thesis advisor may be asked to briefly step outside individually so the committee may discuss any questions or concerns privately.

Evaluation

- **Pass:** The student must receive affirmative votes from a majority of the members of the examination committee to pass.
- **Pass with Conditions:** The committee may feel that, although a student has essentially passed the examination, additional work is required. This may be in the form of additional coursework, the rewriting of exam materials, etc. The committee should sign the form as passing, with the conditions stipulated on the bottom. Once the student has completed the conditions to the satisfaction of the committee, the chair should sign approval. The form is returned to the Graduate School after the exam and given to the chair for final approval of conditions upon the chair's request
- **Fail:** If a majority of the committee votes "fail", the student may not continue in the Program.

Upon successful completion of this exam, the student is advanced to the PhD candidacy.

Student tips

1. Form your committee before your first program seminar, and choose it with your advisor's help (see Appendix 6 for committee composition).
2. Meet with your committee right after your seminar to agree on the exam format, tentative dates, and expectations; each committee runs comps a little differently.
3. Start scheduling early, since finding a date everyone can make is the hardest part. The exam typically lasts 2 to 3 hours, so book a room accordingly.
4. Confirm that your committee members' Graduate School appointments are current.
5. On exam day you give a short presentation (length set by the committee) and then answer questions; you will be asked to step out while the committee discusses your progress, and again while they decide.
6. Work with your faculty mentor while writing your proposal, get input from your committee, and read other students' proposals.

Form a mock-comps committee of senior students and practice, and do not procrastinate.

It is your responsibility to schedule the committee meeting at least once per year.

Proposal Organization (see NIH guidelines)

Total should be no more than 6 pages excluding the Specific Aims page (i.e. 7 total pages including the Specific Aims page). These page lengths follow the current NIH proposal format and will change as NIH proposal review policy changes.

Specific Aims

The purpose of the specific aims is to describe concisely and realistically the goals of the proposed research and summarize the expected outcome(s), including the impact the proposed research will exert on the research fields involved. Content should include broad, long-term goals, the specific objectives and hypotheses to be tested, summarize expected outcomes, and describe impact on the research field. This is the most important page of the entire application since it may be the only section the unassigned reviewers read to understand approach, impact, and innovation.

Recommended Length: 1 page

Significance

The Significance section should explain the importance of the problem or describe the critical barrier to progress in the field that is being addressed. Explain how the proposed research 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. Content should include the state of existing knowledge, including literature citations and highlights of relevant data; rationale of the proposed research; explain gaps that the project is intended to fill; and potential contribution of this research to the scientific field(s) and public health.

Recommended Length: 1 page

Innovation

The Innovation section should describe what is conceptually or technically novel in the proposed research, and how it may shift current paradigms, methods, or understanding. Innovation may also be conveyed within Significance or Approach where that reads more naturally.

Recommended Length: brief; a short paragraph counted within the Significance or Approach allocation, not added to the 6-page limit.

Approach

The purpose of the approach section is to describe how the research will be carried out. This section is crucial to how favorably an application is reviewed. Include PI's preliminary studies, data, and experience relevant to the application and the experimental design; the overview of the experimental design; and a description of methods and analyses to be used to accomplish the specific aims of the project. Discuss potential difficulties and limitations, and how these will be overcome or mitigated; expected results, and alternative approaches that will be used if unexpected results are found. Provide a projected sequence or timetable (work plan), and if the project is in early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work. Discuss in detail the way in which the results will be collected, analyzed and interpreted, and include a description of any new methodology used and why it represents an improvement over the existing ones.

Recommended Length: 4.5 pages.

Rigor and Reproducibility

The purpose of this section is to describe how the proposed research will be conducted using rigorous and reproducible scientific practices. Content should address the rationale for the study design, methods to ensure the robustness and transparency of experimental approaches, appropriate controls, and consideration of factors that may influence the interpretation or reproducibility of the results. This information may be presented as a dedicated section or integrated throughout the proposal. Please reference [Enhancing Reproducibility through Rigor and Transparency | Grants & Funding](#) for more information.

Recommended Length: 0.25-0.5 pages. Alternatively, you can discuss rigor and reproducibility throughout the document without having a separate section on it.

(you can see sample F31/NRSA fellowship applications at the NIH site: <https://www.niaid.nih.gov/grants-contracts/sample-applications>).

Thesis Defense

The doctoral dissertation and final thesis defense represent the culmination of the PhD program. Students are expected to complete their dissertation research and successfully defend their thesis by the end of their fifth year whenever possible. Final defenses must be completed by the Graduate School's published semester deadlines. Students planning to defend after a semester has ended must register for 5 credits of MOLB 8990 (Doctoral Thesis in Molecular Biology) during the following semester. To defend their thesis, students must have completed 30 thesis credits and 30 didactic credits or be enrolled in the remaining credits needed to meet these requirements during the semester of their defense. Students should review the Graduate School's Defense and Graduation Deadlines well in advance when planning their defense.

Thesis Committee

The Thesis Advisory Committee consists of at least four members, with at least three members appointed from the Molecular Biology Program faculty. The Committee Chair must be a MOLB faculty member. All committee members must hold active appointments with the Graduate School, and it is the student's responsibility to verify each member's eligibility before scheduling the defense.

Additional committee members may be added during the course of the student's dissertation research to provide specialized expertise. After advancement to PhD candidacy following the comprehensive examination, the student's research mentor may become a voting member of the committee, and one of the original committee members may be removed if appropriate. The research mentor may serve as a voting committee member but may not serve as Committee Chair.

To ensure an independent and impartial evaluation of the dissertation and oral defense, committee members should not have relationships that could create undue influence over another committee member or the student. Examples include, but are not limited to, direct employment relationships, familial or domestic relationships, financial relationships, or significant scientific collaborations (such as shared grant funding). Any potential conflicts of interest must be disclosed.

Dissertation Requirements

The dissertation should represent original scholarly research demonstrating scientific maturity, critical thinking, and a thorough understanding of the relevant research methods and literature. The scope and format of the dissertation are determined collaboratively by the student, thesis advisor, Thesis Advisory Committee, and the Molecular Biology Program.

Before distributing the dissertation to the committee, the document must be approved by the thesis advisor. Students are required to provide the completed dissertation to all committee members at least two weeks before the scheduled defense.

Beginning with students entering under the current program requirements, all dissertations must include a section addressing rigor and reproducibility, consistent with current NIH expectations for biomedical research.

Prior to the thesis defense, students must also have at least one accepted first-author (or co-first-author with equal contribution) peer-reviewed research publication. Exceptions to this requirement may be granted only under extenuating circumstances with approval from both the Thesis Advisory Committee and the Program Director.

Students must have completed a minimum of 30 thesis credits and 30 didactic credits to defend their thesis. Students may also defend while enrolled in the remaining credits needed to reach these minimums, provided the credits will be completed during the semester of the defense.

Defense Logistics

For complete deadlines, please review the Graduate School Defense and Graduation Deadlines: [Defense and Graduation Deadlines for Anschutz Medical Campus Thesis MS and PhD Students Academic Year 2026-2027](#)

Room Scheduling

Students are responsible for scheduling their defense in consultation with their advisor and committee members.

Room reservations are made through the university's EMS Scheduling System. Students who do not already have EMS access may request an account through the university scheduling website:

<https://schedule.ucdenver.edu/EmsWebApp/Default.aspx>

The defense consists of two portions:

- Public Seminar: approximately 1 hour
- Closed Oral Examination: approximately 3 hours

Students may reserve a single room for both portions of the defense or schedule separate rooms if preferred.

Graduate School Forms Required Before the Defense

Students should begin preparing Graduate School paperwork well in advance of their defense date.

- Exam Request Form and Biosketch Form (not the NIH biosketch). Both forms must be completed by the student and submitted at least one month before the defense date.

- Forms can be found on the Graduate School website:
[Graduate School - Resources & Forms - CU Anschutz](#)
- Students must also complete the MOLB [Speaker Intake Form](#) at least one week before the defense to facilitate seminar announcements and event planning.

Graduate School Forms Required After the Defense

- [Thesis Approval Form](#) (completed by the student)
- Thesis Defense Report (completed by the committee)
- Final thesis submission through [ProQuest](#). Students should carefully review the [Format Guidelines for Theses and Dissertations](#) for instructions and [watch](#) how to upload their dissertation.

Thesis Defense Resources and Dissertation Guidelines

- [Thesis & Dissertation/ProQuest Format & Guidelines](#)
- [Dissertation Preparation Video](#)
- [Graduate School Deadlines, Forms, Policies](#)
- [Defense and Graduation Deadlines](#)

Policies and Procedures

Molecular Biology Program

Program Administration

The Director of the Molecular Biology Program is elected by MOLB Training faculty. The Program Director serves a 5-year term with possible re-election for another 5-year term. The Associate Director is also elected by MOLB Training Faculty; however, the final appointment of Associate Director rests with Program Director. Both Program Director and Associate Director will serve as MOLB T32 co-PIs and are responsible for administering and renewing the T32.

The Director is responsible for the vision and direction of the Program, funding, budgets, and overall administration. The program has a steering committee (five members, plus the Director and the PI of the T32 training grant, plus Associate Director and co-PI on T32 training grant) that coordinates the policies and administration of the program. The steering committee is appointed annually by the Program Director. The steering committee members serve as Chairs of the Program subcommittees including seminar, curriculum, admissions & recruitment, membership and Graduate Advisory (GAC). A Program Administrator is responsible for maintaining and monitoring the academic records of students, financial records and budgets, and providing administrative support for committees, program-specific activities, and courses.

Selection of Committee Chairs and Committee members

Each committee Chair will serve for a maximum of three years with one more year as a regular committee faculty to help with a transition. To ensure that all training faculty have an equal opportunity

to apply, a call-for-applications will be sent to all MOLB faculty. Committee Chairs will be selected by Program Director and Associate Director from all applicants. If possible, preference will be given to faculty who are already serving on the corresponding committee or have served on a similar committee in the past. Regular committee faculty will be selected from applicants by the Committee Chair. To apply for Committee Chairs or Committee Faculty, MOLB training faculty should submit a bio sketch and short (no more than 1 page) Personal Statement. Personal Statement should include but is not limited to a statement of why the applicant wants to serve on the committee, as well as a commitment to diversity and inclusion.

Each Committee will also have at least two (more if needed) student representatives with full voting rights. To ensure that all students have an equal opportunity to apply, a call for applications will be sent to all MOLB students. Students will be selected by the Committee Chair from the resulting list of applicants and will serve for a maximum of two years.

Program Committees

Admissions and Recruitment Committee

The Admissions and Recruitment Committee is charged with making policy proposals to the faculty and implementing the approved policies to enable recruitment of the top students seeking graduate education in the diverse molecularly oriented fields represented by our training faculty. The committee is charged with devising strategies for “marketing the program”, for informing prospective applicants and advisors of the advantages of our program, for actively pursuing qualified students who express an interest in molecular biology, for collecting application materials, coordinating student interview visits, informing faculty and students of the purpose of these visits to maximize their recruiting utility, for making admissions decisions, and for conducting post-admissions surveys to improve future recruiting efforts. The committee should coordinate efforts with the GAC so that special conditions, deficiencies, etc. can be recognized and rectified or accommodated.

Graduate Advisory Committee (GAC)

The GAC and its functions are described in the Graduate Advisory Committee (GAC) section.

Seminar Committee

The Molecular Biology Seminar Series is a key element that bonds the program on a regular basis. It should be organized to maximize participation and be an enjoyable scientifically stimulating experience for the speakers and the audience. This committee is charged with soliciting suggestions from students and training faculty regarding potential seminar speakers, formulating policy recommendations regarding the seminar program, selecting quality outside speakers that will give the audience a balanced interesting seminar series, and for coordinating arrangements for speakers and the maintenance of the seminar schedule. Working together with the Program Administrator, the committee coordinates travel arrangements for invited speakers, and supports the host who made the invitation. The committee should see that seminars are widely advertised so that all faculty and students and academic leadership of the Anschutz Medical Campus that we serve are aware of our seminars. The committee should maximize attendance and participation by Molecular Biology students, faculty, and associated laboratory members. The committee should ensure that all participants in the program receive advance

notice of their seminar dates, understand their time limitations and the audience they are addressing and understand how to operate the lights and projector in the room that they are using.

Curriculum Committee

The curriculum offered to our students should provide them with both a foundation in basic knowledge and the skills to pursue necessary knowledge throughout their careers. Coursework should provide students with basic skills in critically evaluating the literature. With beginning students, these skills will need to be further developed through work in their thesis labs and with their committees, but courses should provide a firm foundation to enable this development. The curriculum committee is charged with making recommendations to the steering committee (and the faculty) regarding course offerings for trainees. The committee should annually evaluate the quality of our current courses, make specific recommendations to the course directors and instructors, and evaluate proposals for new courses. The committee should evaluate the curriculum and make recommendations regarding unmet needs. The committee should solicit input from faculty, students and graduates in evaluating our didactic accomplishments and needs.

Career Development Committee

The Career Development Committee plans and organizes the annual Molecular Biology Career Panel, including coordinating student participation, registration, fundraising, and timely announcements. The subcommittee is typically composed of fourth-year and more senior students and is open to any student who wishes to join.

Faculty Membership Committee

Maintaining a faculty who are committed to graduate education and who effectively conduct imaginative research programs is critical to the success of the program. The membership committee is charged with 1) evaluating new faculty member applications, and 2) reviewing current members' credentials and participation.

1) New Faculty Membership

Application and Evaluation Process. The membership committee is the initial contact for prospective faculty and advises potential applicants of the criteria and Program requirements for membership. The membership committee receives and evaluates written application forms and CVs. Applicants who meet the criteria of the Program on paper are invited by the committee to present a research seminar, meet with students, and interview with the committee. The committee then makes a recommendation to the Steering Committee regarding the suitability of the candidate. To aid in the committee's evaluation, confidential comments from faculty and students are solicited after the research seminar and meeting with students. The Steering Committee considers the recommendation from the Membership Committee and then decides whether to take the candidate's application forward to the general faculty meeting for a vote. Admission to the Program requires a 2/3 affirmative vote by a quorum of the Program faculty. A quorum is defined as 2/3 of the total faculty. Ballots will be sent to all members by email. They can vote Yes, No or ask that the candidate be discussed at the next faculty meeting.

Criteria for Selection of Program Faculty ("Training Faculty"). Faculty membership does not require research in a specific area of molecular biology. Individuals will be favored for membership who have an

active program of hypothesis-driven or discovery-based research of fundamental regulatory processes at the molecular level. Just using the techniques of molecular biology to study problems at the cellular or organism level may not qualify.

The criteria for the selection of program faculty include all members of CU faculty who (i) are active as a principal investigator on an NIH R01 or equivalent grant with a stable pattern of funding (with the exception noted below for junior faculty), (ii) are active in the training of graduate students or postdoctoral fellows, (iii) have a history of active participation in graduate training activities including support for departmental PhD training programs and graduate (PhD) teaching activities, (iv) are actively involved as a major research interest in molecular biological research as defined above, (v) are independently appointed, not subservient to the aims of other investigators, and at the rank of assistant professor or above¹. Full-time faculty at National Jewish Center (NJC) with university-equivalent rank of Assistant Professor and above, with joint appointments in a CU basic sciences department, and who meet all other criteria as stated above, are also eligible for membership. Since the Molecular Biology Program is dependent on active participation, faculty will be favored for admission who are members of only a few other interdepartmental or departmental graduate training program. Faculty are required to have independent programs since they are expected to be able to protect the academic training opportunities for their students. Thus, generally, only faculty in the regular series as defined by the CU School of Medicine criteria will be considered for program admission. Exceptions can be made for faculty in the Research Professor series if they are able to devote significant effort to education.

For exceptionally qualified new assistant professors (M.D. or PhD), the funding criterion is temporarily waived for a period of up to three years provided the candidate's chair writes a letter stating that the department will guarantee the stipend, tuition, insurance, fees and funds to support the student's research until the completion of the PhD, if the faculty member fails to obtain grant funding and exhausts available setup funds. The membership committee must also be provided with the junior faculty candidate's application file including the letter from the candidate's chair, etc., an updated current research plan, and any other materials that are required to assure that the candidate will provide a quality graduate training experience that fulfills the program's goals.

2) Non-training Faculty Members

Non-training faculty members have all the rights, privileges, and responsibilities of training faculty members except non-training faculty will not serve as primary mentors for graduate students in the MOLB Program.

Non-training faculty members, like MOLB Program Training Faculty, are expected to regularly:

- i. serve on MOLB graduate student comprehensive and thesis committees,
- ii. teach in MOLB courses,
- iii. attend MOLB Program seminars, retreat, and career panel,
- iv. serve on MOLB Program standing committees,
- v. attend and vote at MOLB Program Faculty Meetings.

Non-training faculty membership will be recommended for MOLB Program faculty who wish to participate in the academic aspects of the MOLB Program but are unable to support graduate student

¹Generally defined as a tenure track appointment.

thesis research in their labs. Non-training faculty members also need to maintain active graduate school appointments.

3) Review of Current Training Faculty

Program Membership for both training and non-training faculty members will be reviewed at least every five years. The faculty undergoing review will be contacted by the Program Administrator and will provide a bio sketch and training statement. The statement should include a description of faculty participation in MOLB, a statement of their efforts to promote diversity, equity, and inclusion, and the faculty member's training record. Specifically, the training record will include: (a) names of all students that are either currently training in the laboratory (all programs, not just MOLB) or graduated from the laboratory in the last 5 years; (b) number and bibliographical information of papers published by all students; (c) all the conferences attended by students in last 5 years; (d) all intramural and extramural funding and awards received by students in last 5 years; and (e) current employment information of students that graduated in last 5 years. The membership committee will evaluate whether re-appointment of program faculty as a training or non-training member is warranted based on the faculty member's previous involvement in the MOLB Program, their promise of continued contributions, mentorship success and the criteria described above for new faculty members. Recommendations by the membership committee will be approved or disapproved by Program Director and Associate Director. If the majority of the steering committee does not support continued membership, the affected faculty member will be notified by the Program Director. If the faculty member wants to continue membership, the matter will be discussed by and brought to a vote of the program faculty. A simple majority is required to enable continued membership.

Student Admissions Requirements

A baccalaureate degree in biological or physical science or in engineering is required. There is no absolute requirement for grade point average above that required by the graduate school, but successful applicants will generally have GPAs above 3.2 (A=4.0). Students seeking admission should have taken Organic Chemistry (2 semesters; 1 semester of laboratory), General Physics, college level mathematics through Calculus or in Probability and Statistics or Computer Science (1 year). Students with deficiencies may be admitted, but these must be rectified during the first year. Courses in Biochemistry, Biophysical Chemistry, and Biology or Genetics are recommended, as is prior substantive research experience either as part of undergraduate training, summer programs, or work responsibilities.

Advisor's Financial Responsibilities

The School of Medicine Office of Research Education (ORE) is financially responsible for first-year student stipends, plus student tuition and all associated expenses and fees (including health and dental insurance). ORE covers these expenses through the end of the student's first year, until July 1. The student's thesis advisor is financially responsible for these expenses for the remainder of the training program. The advisor is responsible for making a financial projection for the student's expected tenure and assuring the MOLB Program Director and ORE that they have reasonable expectation of being able to support the student during this entire period. This projection/assessment must be completed before a student is given permission to begin their thesis research in the advisor's lab.

Expectations for Students

The success of each student admitted to the Molecular Biology Program is our goal. During the first two years of graduate school, there are clear and tangible milestones every graduate student must meet. In the first year, students must obtain passing grades in their coursework, successfully complete three research rotations, identify a lab for thesis research, and pass the year-end preliminary exam. In the second year, they must begin thesis research and successfully pass the comprehensive exam by the end of the Fall Semester of their third year. In the subsequent years of thesis research, the milestones become much more individualized, and success relies on a student's own self-motivation, intellectual drive, and hard work. Graduate school is not a job – it is training for a challenging career. A student's success at this stage of their training and in subsequent steps will depend on the student's own efforts. The thesis advisor and thesis committee are in place to provide scientific and professional guidance and support. It is the student's responsibility to take the initiative to work with their advisor and committee to achieve success in research and in a career. Ultimately, a student's success lies with the student!

The Molecular Biology Program has the following expectations for a student's thesis career:

1. A student must be self-motivated. Motivation should come from within and not be determined by the mentor or arbitrary deadlines.
2. A student should work the necessary hours in the lab to complete the experiments. Graduate school is not a five day a week, 9-5 job. The effort each student puts in will be reflected in the level of success and the timetable for graduation.
3. A student should be intellectually engaged in the research project. Initially, the project is often conceived by the mentor; however, by the comprehensive exam, the student should be actively participating in experimental decisions and research directions. In subsequent years, the student should take progressively more control in the execution and direction of the research.
4. A student must take initiative for their own career and take responsibility for research successes and failures. If things are not working out in the lab or with the advisor, the student should initiate actions to correct the problem. The thesis committee and student advisor exist to help, but the student must seek out that help.
5. Students must be in good standing to continue to progress in their PhD Program. Good standing entails:
 - a. maintaining a 3.0 GPA, as required by the Graduate School
 - b. attending all required Program events (e.g., courses, retreats, seminars, etc.)
 - c. behaving in a professional manner (including timeliness to events, responding to emails within 48 business hours, and maintaining respectful, constructive communication with peers, faculty, and staff)
 - d. fulfilling program requirements and meeting academic milestones in a timely manner, such as passing preliminary and comprehensive exams, annual meetings with thesis committee, and submitting a dissertation proposal
 - e. demonstrating satisfactory research progress
 - f. Successfully joining the research group of a member of the PhD program at the end of year one or, if needed, after a successful 4th rotation;
 - g. adhering to the university's code of conduct and professional standards.

Failure to meet any of these expectations is grounds for dismissal from the program.

The Molecular Biology Program curriculum includes didactic courses, laboratory rotations, a seminar series, and selected electives. The heart of the first-year curriculum is a basic core course (IDPT) taken by students in a number of different graduate programs at CU Anschutz during the fall semester. In

addition, students rotate through three training laboratories in their first year; at the conclusion of the three rotations, the student chooses a thesis laboratory.

The Program requires at least 28 semester hours in course work pre-comps (rotations and research courses taken prior to the completion of the comprehensive examination and given a letter grade) and an additional 30 semester hours of thesis credits for the PhD. All work undertaken as a graduate student must comply with the academic Code of Honor (see CU Anschutz Graduate School website for details, <https://graduateschool.cuanschutz.edu/forms-resources/resources> and listed under the 'Policies' tab. There is no maximum number of credits; if a student has accumulated the additional 30 semester hours post-comps, and is still pursuing the PhD degree, the student must continue to register for credits in increments of 5 credits per semester.

[Graduate School Policies and Resources](#)

Exit Strategy for Seventh-year Students

It is the goal of the Molecular Biology PhD Program for every student to earn the PhD degree within 6 years of entering the program. To support this goal, entry into the seventh year of study triggers a specific set of actions. The Program Director and/or Associate Director will meet separately with the student and with the student's thesis committee Chair to discuss the causes of the delay. The outcome of the meetings will be a detailed, documented plan for graduation that is agreeable to all those involved and that includes a timeline with explicit mileposts (e.g., target date for submission of first-author manuscript). Ideally, such a plan will already have been crafted by the student in collaboration with the PhD advisor and thesis committee. It is likely that such plans will include an increased frequency of thesis committee meetings.

Procedure for changing thesis advisors and dismissal from thesis lab

While the goal is for every student to complete the PhD with their chosen advisor, this relationship does not always work out. Students or mentors experiencing difficulties should first seek support through the program's normal structures: the thesis mentor, GAC, thesis committee, Program Administrator, and Program Director. When issues cannot be resolved and a student will leave the lab, the full process, including good-standing requirements, the report to ORE, continued stipend support, advising on next steps, and the four-week transition rotation, is described in Appendix 10.

- 1) A student may instead leave the Program with a Master's degree or transfer to another graduate program; these options are governed by Graduate School rules.

Molecular Biology Program Policy for Vacation and Leave

Graduate school is a privilege, and earning a PhD in the biomedical sciences is a rigorous, full-time commitment that requires a high level of professionalism, responsibility, and engagement. Students in the Molecular Biology (MOLB) Program are expected to pursue their training on a full-time basis, devoting each day of the normal work week, as well as any additional time required to meet the demands of their research, coursework, and other program responsibilities.

MOLB students are appointed to a full-time Graduate Student Assistantship (GSA 1505), which provides a stipend as well as tuition and fee remission in accordance with University policy. Because tuition remission is tied to this appointment, students generally may not hold an additional University position

while receiving a GSA appointment. In limited circumstances, such as approved teaching assignments or internships, exceptions may be granted with the approval of both the thesis mentor and the Program Director.

The Molecular Biology Program does not maintain a formal system for tracking vacation or sick leave. Instead, leave is managed under the honor system in coordination with the Office of Research Education (ORE) for first-year students or the thesis mentor's department for students in their second year and beyond. Students are expected to communicate planned absences in advance whenever possible and to work closely with their mentor to ensure that research responsibilities, coursework, and other program obligations continue to be met.

The leave guidelines below are established by the CU Anschutz Graduate School and Office of Research Education and generally align with National Institutes of Health (NIH) training grant policies.

Vacation and University Holidays

Graduate students are entitled to all official CU Anschutz campus holidays and may take up to 10 weekdays of vacation per academic year (excluding weekends and campus holidays). Vacation time does not accrue or carry over from year to year.

Students continue to receive their stipend during approved vacation and holiday periods. Vacation should be coordinated with the student's thesis mentor (or ORE during the first year) to minimize disruption to research and program responsibilities.

Students enrolled in coursework are expected to attend all scheduled classes, examinations, and other required academic activities. The periods between academic terms, including summer, are considered active training periods and are not automatically considered vacation.

Sick Leave

Graduate students may receive up to 11 weekdays of paid sick leave per academic year (excluding weekends and campus holidays). Sick leave may be used for personal illness, medical appointments, and medical needs related to pregnancy and childbirth.

In exceptional circumstances requiring additional sick leave, students should submit a written request for approval to the thesis advisor (if applicable) and the Program Director. Students with chronic medical conditions or approved accommodations through the Office of Disability, Access, and Inclusion (ODAI) should work with ODAI and the program to determine whether accommodations apply separately from sick leave.

Parental Leave

Graduate students may receive up to eight work weeks of paid parental leave per academic year following the birth or adoption of a child. Either parent is eligible for parental leave.

Students should notify their thesis advisor (if applicable) and the Program Director as early as possible before taking parental leave. Sick leave related to pregnancy and childbirth may be used in conjunction with parental leave when appropriate.

Bereavement Leave

Graduate students may receive up to five weekdays of paid bereavement leave for each qualifying death event, consistent with University of Colorado bereavement leave policies.

Extended Leave of Absence

Students requiring leave beyond the paid leave allowances described above must request an unpaid Leave of Absence.

Requests for an unpaid leave must:

- Be discussed with the thesis advisor (if applicable) and Program Director before the leave begins.
- Be approved in advance by the Program and Graduate School.
- Include documentation outlining the approved leave period and the student's plan for returning to the program.

Students supported by externally funded grants or training awards may be subject to additional sponsor requirements and approval processes.

Funding-Specific Policies

Many MOLB students are supported by NIH training grants; however, some students receive funding from other federal agencies, foundations, departments, or research grants.

When a student's funding source has leave policies that differ from those described above, the requirements of the funding agency or sponsor take precedence. Students are responsible for understanding any additional restrictions associated with their funding source and should consult both their mentor and the Program if questions arise.

Reporting Leave

Students are responsible for following the appropriate leave reporting process established by the Program, the Office of Research Education, and/or their thesis mentor's department. Depending on the student's stage in the program and funding source, leave requests may need to be reported to:

- The Office of Research Education (first-year students);
- The thesis advisor;
- The thesis advisor's home department; and/or
- The Molecular Biology Program.

Students should communicate planned leave as early as possible whenever feasible.

Leave Disputes

Questions or disputes regarding leave should first be discussed with the student's thesis advisor and Program Director. If necessary, concerns may be elevated through the Office of Research Education and the Graduate School for resolution.

Additional Information

For the most current Graduate School leave policy, students should refer to the official CU Anschutz Graduate School PhD Student Vacation and Leave Policy. Because University policies may change, the Graduate School policy supersedes handbook language when applicable.

Financial Support

According to financial aid, "...In order to avoid retirement withholding from your stipend checks, Financial Aid requires students to be registered for a minimum of 5 credit hours." The exception to this is in the summer semester, students will only need to register for 1 credit of MOLB 8990 to meet full-time status.

During the first academic year, the SOM Office of Research Education (ORE) will provide students with a stipend of \$43,000 per year (AY 2026-2027; reviewed annually), paid monthly on the last working day of each month. Monthly checks are automatically deposited into the bank account specified by the student. ORE also pays tuition, fees, and health/dental insurance for first year students. After the first year is completed, the chosen thesis faculty mentor will pay thereafter. Students are responsible for books, housing, etc.

Not registering and paying a tuition bill by the set deadlines of the Registrar and Bursar's Offices will result in a \$60.00 late fee. Students are personally responsible for paying all late fees and fines.

Students' academic expenses, including stipend, will be paid until graduation contingent on the student meeting the following conditions:

- Satisfactory academic progress.
- Eligibility for in-state tuition after the first year. Students who fail to qualify for in-state residency will be personally responsible for the difference between in-state and out-of-state tuition (international students excepted).
- Preliminary examination is passed at the end of the first year.
- Comprehensive examination completed and passed by end of fall semester of 3rd academic year.
- Chosen research advisor will provide financial support to the student beginning in the second year and continuing to graduation. Support includes stipend, tuition, fees, and health/dental insurance.

Office of Research Education

- [Office of Research Education](#)
- [Conflict of Interest](#)
 - [Honor Code and Committee Procedures](#)
- [Anschutz Email address communication](#)
- [Student Badge Requirement](#)
 - Everyone on campus must carry an Anschutz Medical Campus security access badge, which also acts as a photo identification card. This badge serves many purposes including enabling students to access the library, obtain parking, gain access to buildings after hours, and attend special University functions.
- [Financial Aid for Graduate Students](#)

Residency

New students must immediately obtain documentation to support the petition for State Residency. This is a very important priority for first year students. After the first full year, only in-state tuition will be covered (assuming satisfactory academic progress), which requires that the student qualifies as an in-state resident*. The documents that must be obtained include local checking account, driver's license or State ID, and voter's registration, as well as proof of Colorado domicile. Further information will be provided during the School of Medicine Graduate Student Orientation, and you may also refer to the Registrar's Office for more information, <https://www.cuanschutz.edu/registrar/residency>

*All US citizens and permanent residents are eligible to become Colorado residents.

**International students cannot gain residency and will remain coded at the out-of-state tuition rate; these students are NOT personally responsible for the tuition differential.

Tuition, fees and stipend

All incoming Graduate Students are offered a financial aid package from the Graduate School that includes an annual stipend of \$43,000 (approved for Academic Year 2026-2027), tuition costs, and payment of individual student health insurance and activity fees. The Stipend is evaluated on an annual basis for the cost of living. Please note that this support covers the period July 1, through June 30 for continuing PhD students, and August 15, through June 30 for first year PhD students. Payment of annual stipend, along with tuition costs, fees and individual health insurance is dependent upon satisfactory academic progress as defined in the Graduate School and Program policies.

ORE Policy On External Employment For Graduate Students

Background

Graduate students admitted to ORE Programs receive an annual stipend, health insurance coverage and full tuition. They are considered full time students and, per NIH policy, expected to devote a minimum of 40 hours to their PhD training.

Students may wish to take on additional paid employment for financial reasons or to gain experience in teaching, industry or explore other career opportunities. This may be complementary and beneficial to their training and professional development in University of Colorado graduate programs.

Policy

Graduate students, as key personnel substantively involved in research related activities, are subject to the University of Colorado [conflict of interest and commitment](#) policy:

"With prior written approval by the dean or appropriate campus authority, faculty and staff members shall be permitted to receive additional remuneration from sources outside the university so long as the activities generating the income do not exceed one-sixth of their time and effort."

In addition, [NIH policies](#) state:

"NIH recognizes that student or postdoctoral trainees may seek part-time employment coincidental to their training program to further offset their expenses. Fellows and trainees may spend on average, an additional 25% of their time (e.g., 10 hours per week) in part time research, teaching, or clinical employment, so long as those activities do not interfere with, or lengthen, the duration of their NRSA training."

In accordance with the above policies, Graduate students, in good academic standing, may, with appropriate approval, work approximately 10 hours per week in external employment.

Such employment must be approved in advance, by the Office of Research Education (ORE), the Students Program Director for first year students, and by Program Director and Thesis advisor for those students who have entered a laboratory or who transfer or are directly admitted to a laboratory.

External employment must not conflict or interfere with any required elements of a student's PhD training or lengthen that training. Examples include but are not limited to: laboratory research, classes, assessments, seminars, journal clubs, lab meetings, retreats and other required program or ORE activities.

Students must remain in good academic standing to continue their external employment.

Students receiving extramural support for their PhD from training grants or other sources are subject to the requirements and policies of those funding entities and may not be eligible for external employment.

Failure to disclose external employment, falsely reporting or willfully exceeding approved hours will be grounds for disciplinary action and possible dismissal from the PhD program.

Resolution of problems

Students may appeal denial or rescinding of approval for external employment, on the basis that policies were not followed or applied fairly. Appeals will be reviewed by the Associate Dean for Research Education and their decision will be final.

Definitions

- External employment: any paid (or compensated in kind) work or work product outside of a student's PhD training program and the Office of Research Education.
- Good academic standing:
 - maintaining a 3.0 GPA, as required by the Graduate School
 - attending all required Program events (e.g., courses, retreats, seminars, journal clubs, etc.)
 - behaving in a professional manner (including timeliness to events, responding to emails within 48 business hours, and maintaining respectful, constructive communication with peers, faculty, and staff)
 - fulfilling program requirements and meeting academic milestones in a timely manner, such as passing preliminary and comprehensive exams, annual meetings with thesis committee, and submitting a dissertation proposal
 - demonstrating satisfactory research progress
 - successfully joining the research group of a member of the PhD program at the end of year one or, if needed, after a successful 4th rotation
 - adhering to the university's code of conduct and professional standards. Failure to meet any of these expectations is grounds for dismissal from the program.

Program Events and Activities

Program Seminar

The program holds a weekly seminar in which faculty, postdoctoral fellows, students and invited outside speakers present talks on their research. The seminar series is a major focus for the program in that it draws everyone together weekly and keeps individuals abreast of research in progress as well as scientific techniques and expertise present within the program. This seminar series is beneficial to all participants. It helps students learn and practice presentation skills that will be important in their careers and helps enormously in finding the appropriate colleague to consult when problems arise in individual research efforts. Outside faculty speaker visits are scheduled to maximize interactions between both students and faculty. Students do not register for this course in the first year but are required to attend. Starting in their second year, students will register for a course (MOLB 7661) and receive credit for attending the seminars. All students are required to attend and present at seminar.

Annual Retreat

The program holds an annual two-day scientific retreat at an off-campus site. (For 2026, the annual retreat will be held at YMCA Snow Mountain Ranch (Granby, CO).) Faculty, students, and other members of faculty laboratories present either poster or oral presentations of their research in progress. The schedule for the retreat is arranged to ensure a vigorous exchange of information and to promote collegiality among participants. All students are required to attend and present a poster or talk at the annual retreat. Fourth year students are responsible for organizing the annual retreat.

Career Panel

A valuable component of the Molecular Biology Program is the annual Career Panel, which provides students with the opportunity to explore a variety of career paths in molecular biology and the biomedical sciences. The Career Panel is organized by the Career Development Committee, which is typically composed of fourth-year and more senior students and is open to any student who wishes to join. The event features invited professionals who share their career experiences and perspectives, with opportunities for students to ask questions and network during a student lunch. Although the Career Panel is not taken for a grade, all students are required to attend.

Molecular Biology Program Bolie Graduate Scholar and NIH Student Support Awards

Victor W. Bolie and Earleen D. Bolie Graduate Scholarship Fund

(Students in the 4th, 5th and 6th year are eligible to apply for the Bolie Graduate Scholarship award)

Guidelines:

1. Bolie Graduate Scholars will be chosen from students who have completed at least two years in the lab and successfully passed their Comprehensive Examination (as of August) *. For regular graduate

students, these would be students who will be beginning their 4th years as of September. For MSTP students, students entering their 5th, 6th, or 7th years (including 2 medical school years) as of September are eligible. Based on the endowment, there should be up to three Bolie Graduate Scholars per year. Students currently supported by the MOLB T32 or other fellowships over \$15,000/year are not eligible. (So, a student currently supported by the MOLB T32 cannot apply for the Bolie Graduate Scholarship.) Bolie awards are restricted to US citizens and lawful permanent residents (who graduated from US colleges and high schools)** , and previous support by a T32 or other award will not negatively impact award consideration.

2. Each June, the program will issue an invitation for applications from those students who qualify (per stated rules) for the Bolie Scholarship. The application will include: a) the student's bio sketch, highlighting achievements of the student in the program, including a paragraph detailing progress in the research project; and b) a letter from the chair of the student's committee (half-page), requested by the student. The current T32 committee will choose up to three students to receive the award, based on the above application, as well as review of the student's performance and participation in the program.
3. Bolie Graduate Scholars will receive \$25,000 towards their stipend and \$2,000 for educational expenses (such as computer, research-relevant software, or travel to conference). The remainder of the stipend and benefits/tuition would come from other sources, i.e. the mentor's grants.
4. The award will be for one year only.
5. Bolie Graduate Scholars will present talks at the Molecular Biology Retreat (same time as allotted for faculty/postdoc speakers).
6. Bolie Graduate Scholars must acknowledge support from the Victor W. Bolie and Earleen D. Bolie Graduate Scholarship Fund in the thesis and in publications.
7. At the discretion of the Program Director and the Steering Committee, the Program can choose to support an exceptional first year students as a Bolie Scholars. This award would be offered during recruitment of prospective students, as an incentive to capture such an outstanding student.

Notes:

* The reason for choosing upper year students is to assure that the best students can be chosen as Bolie Graduate Scholars, without competing against students being considered for the MOLB T32, i.e. students in their 2nd and 3rd years.

Bolie Travel Award

Awards will be made up to \$1,200 total per student (during their MOLB academic career) to attend a scientific conference or scientific workshop and will be made on a competitive basis. A short application form is available from the Program Administrator. If possible, applications should be turned in at least 60 days in advance of the meeting; and students applying for Bolie funds are also required to apply for any travel awards offered by the sponsoring agency.

Eligibility for Bolie Travel Award: All full-time Molecular Biology students who are working in a thesis lab are eligible for travel awards. 1st year students, in general, will not be eligible. Preference will be given to students senior enough to have material to present at meetings, either in the form of posters or talks.

Attending a workshop will require justification that the technology cannot be learned on campus and will directly impact thesis work. To enable as many students as possible to take advantage of this opportunity, students will generally be eligible to receive a travel award only once during their tenure in the program.

Student Mini-Sabbatical Award

Each year 1-2 awards will be made up to \$3,000 total per student to travel to a different laboratory to learn a new technique. Students attending training courses are also eligible. Only students that successfully passed their Preliminary Examination are eligible to apply. In April-May, the Program Director will request applications from eligible Molecular Biology students. As part of the application, students will submit a bio sketch and a letter explaining how this mini sabbatical will benefit their training and research. The application should be accompanied by a support letter from their mentor.

Bolie Resiliency Award

This is a \$2000 award given to selected first year MOLB students that demonstrated excellence in research despite facing unusual adversity or disadvantageous socio-economic background. Up to five awards will be given each year.

Eligibility:

- 1) Only first year MOLB students qualify for this award.
- 2) Candidates must meet eligibility criteria as defined by Victor W. and Earleen D. Bolie Graduate Scholarship Fund.
- 3) Candidates are expected to have substantial biomedical research experience during their undergraduate studies.
- 4) Candidates must come from disadvantageous socio-economic background and/or have faced unusual adversity during their undergraduate studies and research experiences.

Selection: Candidates will be nominated by the Chair of MOLB Admissions Committee. Awardees will then be selected by MOLB Director and MOLB Associate Director in July of each year.

Support with computer purchase

MOLB will also provide support for first-year students in purchasing a computer that will be used in their research and education. Specifically, up to \$1,500 will be reimbursed toward a computer purchased in the first year. Purchase needs to be done during Fall semester and student must demonstrate the receipt. This support is subject to availability of funds.

MOLB T32 NIH Training Grant

The goal of the Grant Selection Committee is to award NIH training grant slots to the most promising Molecular Biology students. Typically, 10 slots will be awarded to students just completing their first or second years and starting their second or third years, respectively, when the award period will begin. For MSTP students, the first year is when they entered the Molecular Biology program.

- 1) In late May, the Grant Selection Committee will request nominations from faculty mentors of training grant eligible Molecular Biology students. The Grant Selection Committee will then meet and review the performance of those training grant-eligible MOLB students nominated by their mentors. Criteria evaluated will include undergraduate GPA, performance in classes during first year of graduate school, preliminary exam scores and performance in their labs (based on grades and both rotation and thesis lab seminars). For first-year students, preliminary exam performance represents a major criterion. Mentor Faculty participation in MOLB is also considered a criteria.
 - a. Per NIH guidelines, (nominated) students must be US residents or non-citizens who have permanent resident status.
- 2) The training grant award is given for one year only. Qualified candidates, having completed their one-year allotment, can re-apply for a second year. Slots for a second year of support for prior training grant awardees will represent approximately half of “new” T32 awards.
- 3) Promising candidates will be chosen for short interviews. Typically, about twice as many interviews will be conducted as there are available training grant slots.
- 4) Each student applicant will be interviewed individually by the entire Grant Selection Committee for about 5 minutes.
- 5) After all candidates have been interviewed, the Committee will meet in private to decide which students should receive training grant support. If any Committee member has a student in their lab being considered for a training grant slot, then that member will not be present for the discussion of their student.
- 6) An e-mail will be sent to all MOLB faculty and students announcing the new training grant awardees.

T32 Trainee Appointment Procedures

A T32 and Bolie Selection Committee (also selects MOLB Bolie Scholars) consists of five members that include Program Director, Associate Director, Director of BSP Umbrella Program, Director of MSTP Program, and a representative of the RNA Bioscience Initiative (RBI). We included BSP and MSTP Directors since MOLB recruits students directly from these programs. This committee meets each year in June to review the performance of training-grant-eligible students. Review criteria include undergraduate records, evaluations of rotations, student research presentations (in their current thesis lab), and grades at CU-AMC. The committee then selects students for 5-minute interviews; typically, twice the number of students is interviewed relative to available training grant slots. The interviews are intended to allow the committee to gauge the students’ understanding of their research and their passion and commitment to science. Following these interviews, the committee chooses students to be funded by the T32 training grant. Committee members recuse themselves from evaluating and scoring their own trainees. In such cases, trainees are scored by the rest of the committee. Awards are given for 1 year, with a possible competitive extension for 1 more year.

HIRS Travel Fellowship

A major gift to the Graduate School at the Anschutz Medical Campus has allowed the establishment of an endowed award for graduate students in the basic biomedical sciences at the Anschutz Medical

Campus. The C. Werner and Kitty Hirs Graduate Student Enrichment Fund Awards may be used for any one of the following three specific purposes:

1. Travel awards to supplement support for PhD students to attend national meetings,
2. Travel awards to facilitate PhD students learning new techniques either through a visit to an out of state laboratory or by signing up for a hands-on technique course, such as the University of Chicago Marine Biological Laboratory (MBL) Physiology course, and
3. Merit scholarships to aid in recruiting the “best and the brightest” PhD students into the basic sciences at CU Anschutz.

The travel awards can be made for up to \$500 each. In accordance with Dr. Kitty Hirs’s expressed wishes, the travel award for meeting attendance will be divided into two parts: \$400 to be applied to travel expenses (e.g., registration, lodging, travel) and \$100 directly to the student for personal expenses at the meeting (e.g., making it possible for the student to attend extra-meeting social events in which science is part of the conversation). Up to 20 “meeting” awards will be made each academic year. The travel awards for visiting another laboratory or attending a techniques course are to be applied only to travel expenses (e.g., travel and lodging). Up to 10 “techniques” awards will be made each academic year.

Application link: https://www.ucdenver.edu/docs/librariesprovider138/denver-anschutz-graduate-school/resources/anschutz-medical-campus-travel-award-application.docx?sfvrsn=9c1c22b9_2

Resources and Support

Students can access a variety of campus services through the links provided below. The Office of Student Affairs is committed to supporting CU Anschutz students by offering guidance and assistance in navigating campus resources. For detailed information about available services or to schedule an appointment, please visit the Office of Student Affairs webpages. For additional questions or support, you may contact the office via email at StudentAffairs@cuanschutz.edu.

- [Office of Student Affairs](#)
 - [Campus Life](#)
 - [Student Support](#)
 - [Health & Wellness](#)
 - [Student Resources](#)
 - [Student Services](#)
- [Students Resource Directory](#)
 - Includes all campus resources
- [Academic Calendar](#)
- [Residency](#)
- [Badging Office](#)
- [Student Parking & Transportation](#)
 - Eco Pass
 - Campus Circulator (Transportation service)
 - Medical Campus Rail Shuttle
- [Office of Information Technology](#)
- [Student Health Insurance](#)
- [Office of Research Education – Concern Reporting Form \(Maxient\)](#)
- [CU Anschutz Student Outreach and Support Referral](#)
- [CU Anschutz Student Request for Medical Leave of Absence](#)
- [Graduation Deadlines Thesis, Anschutz](#)
- [Thesis & Dissertation/ProQuest Format & Guidelines](#)

Appendices

Appendix 1

- [Medical Scientist Training Program](#)
 - [HANDBOOK](#)
- [Biomedical Sciences PhD Program](#)
 - [HANDBOOK](#)

Appendix 2

First Year Rotation Guidelines

Selecting Rotation Laboratories

While enrolled in Core I, students are expected to begin identifying potential rotation laboratories by meeting with faculty members whose research interests them.

Beginning in early September, students are expected to attend one or two lab meetings in several potential rotation laboratories. Before selecting their first rotation, students will report to the MOLB Graduate Advisory Committee (GAC) which lab meetings they attended.

Attendance at lab meetings does not obligate a student to rotate in that laboratory. Rather, these visits are intended to help students make informed rotation selections while providing early exposure to a variety of scientific topics, laboratory environments, and approaches to scientific thinking and analysis.

Students will also attend the annual MOLB Program Retreat at the end of October. While the retreat occurs after students have begun their first rotation, it provides additional opportunities to interact with faculty and learn about research programs that may influence second and third rotation selections.

Selection of rotation laboratories should be made jointly by the student and participating faculty member. Choose your rotations in consultation with the GAC, whose advice will help you align each rotation with your training goals. In advising you, the GAC weighs practical factors such as laboratory space, faculty availability, and the number of students already in a lab. Once a rotation is set, notify the GAC chair and submit a Rotation Proposal (using the template later in this appendix) to ORE by the second Friday of the rotation.

Research projects should be sufficiently challenging while remaining appropriately scoped so that meaningful progress can be achieved during a single rotation.

Rotations with non-MOLB faculty are strongly discouraged and will only be approved in exceptional circumstances. Such rotations require approval from both the GAC and the Program Director.

Rotation Schedule (Academic Year 2026–2027)

- *First Rotation: September 8, 2026 – November 20, 2026*
- *Second Rotation: November 30, 2026 – February 19, 2027 (includes Winter Break)*
- *Third Rotation: March 1, 2027 – May 21, 2027*

Toward the end of each rotation, first-year students will present a rotation talk summarizing their project.

Rotation Expectations

During the first week of each rotation, the student and faculty mentor are expected to develop a 2–3 page research proposal describing the rotation project. The proposal must include the following sections:

- Significance
- Specific Aims

The proposal must be submitted to the GAC by the second Friday of the rotation.

In addition, both the rotation faculty member and student must complete and sign the Rotation Expectations Form, which is available from the GAC.

Although students will conduct experiments during their rotations, generating large amounts of data is not the primary objective. Instead, rotations are intended to develop the student's understanding of the scientific questions being investigated, the rationale behind the project, and the approaches used to address those questions. Throughout the rotation, students are expected to read the relevant scientific literature, discuss the project's goals and significance with their faculty mentor and laboratory members, and develop the critical thinking skills necessary for successful research.

Faculty mentors should clearly communicate these expectations at the beginning of each rotation.

Rotation Talks

At the conclusion of each rotation, students will deliver a 10–15 minute presentation describing their rotation project.

Rather than emphasizing the amount of data collected, presentations should focus on:

- The central hypothesis.
- The significance and innovation of the project (conceptual and/or technical).
- The major research questions being addressed.
- Actual or expected results.
- Appropriate short- and long-term future directions.

Students should work with their rotation faculty mentor in preparing and practicing their presentation.

Evaluation

Students complete three research rotations for one credit each (MOLB 7650: Research). Performance during each rotation serves as one criterion for advancement to the second year of the program.

At the conclusion of each rotation, the faculty mentor will evaluate the student's performance by assigning a course grade and providing a written evaluation of the student's:

- Understanding of the scientific project
- Ability to design experiments
- Bench skills

- Organizational skills
- Quality of laboratory notebook

Evaluations are completed electronically through the Graduate School system, discussed with the student, and placed in the student's academic file.

*Rotation Student Lab Questionnaire

(Students should be asking these questions before committing to the laboratory for rotation)

- 1) How often and when should I expect to meet with the lab PI? What should I prepare in advance that I should bring to those meetings (notebook, raw data, slideshow presentation, written summary of completed work)?
- 2) How should I communicate with the PI outside of any scheduled meetings? Unscheduled office visits? E-mail?
- 3) Who is the best person in the lab to consult for day-to-day technical advice?
- 4) Where can I find descriptions of standard lab protocols? When is it appropriate to search the internet for protocols that I will perform in the lab?
- 5) What is the expectation for the hours/days I should be working in the lab, in my rotation and if I were to join as a permanent member?
- 6) What is the preferred notebook format for the lab?
- 7) How do I order something? When should I re-order a lab supply before it's empty?
- 8) What do I do with dirty lab dishware?
- 9) Where are the appropriate waste containers in the lab?
- 10) What should I do in the event of a lab safety issue? Where are clean-up supplies? Where is the lab safety reference guide?
- 11) What areas do I only have access to during business hours (7am-6pm)?
- 12) Is there a weekly lab meeting or other lab/department events that I should be aware of?
- 13) How can I contact someone with a lab question after hours?
- 14) How should I store digital data files from my research in the lab?

Molecular Biology Rotation Project Proposal

After you have met with your mentor to discuss your project, you will write a brief 1-2 page, double-spaced Introduction followed by a list of Specific Aims. The Introduction should include: 1) a brief background (*e.g.* "Lung cancer accounts for the highest number of cancer deaths in the US...", etc.) 2) the nature of the scientific problem your project addresses 3) the main hypothesis (or hypotheses) to be tested 4) description of your research project with brief methods (*e.g.* "In order to test this hypothesis, I will determine if levels of protein X are higher in more aggressive breast cancer cell lines by immunoblot analysis..."). 5) How the results of your project might impact the field more broadly. *Your introduction should cite ~5-10 relevant references.*

The Introduction will be followed by 2-3 Specific Aims, each of which consists of 2-3 sentence statements and/or bullet points, of the major goals of the aim and the methods for achieving the aims. The specific aims should be modest in scope, to increase the likelihood of achieving the aims during the rotation.

Examples of two Specific Aim styles:

Specific Aim 1: Methylate PCDH10 transcript RNA using purified METTL3/METTL14 enzyme. I will test the hypothesis that the mRNA of the HOTAIR target PCDH10 can be modified with m6A by the METTL3/14 methyltransferase to help us understand if this modification plays a role in HOTAIR RNA matchmaking.

- a. The METTL3/METTL14 methyltransferase complex will be purified from overexpression in 293 cells using affinity resin via a FLAG tag.
- b. Enzyme activity and extent of methylation of PCDH10 RNA will be determined using the EpiQuik™ m6A RNA Methylation Quantification Kit, which identifies m6A modifications through a colorimetric assay.
- c.

Specific Aim 1: To determine the levels of protein X in a panel of breast cancer cell lines that have differing degrees of aggressiveness.

Breast cancer cell lines that have been identified as “aggressive” or “non-aggressive” based on their ability to invade synthetic extracellular matrix will be cultured and protein extracts will be subjected to immunoblot analysis to determine if there is a correlation between cellular levels of protein X and aggressiveness.

Your Project Proposal should also have a cover page with the title of your project and the names and signatures of the student and mentor (use template). The deadline to submit your signed Project Proposal is one week after your rotation begins.

The purpose of this exercise is to help you solidify your project with your mentor so that you can focus on your research and have a specific set of steps that will guide you through your project. The references that you use in the proposal will likely be valuable resources to help guide your work.

Rotation Project Proposal Title

Molecular Biology Rotation # ____

Student Name _____

Student Signature _____

Rotation Mentor _____

Rotation Mentor Signature _____

Introduction (1 page)

Specific Aims & Methods for Achieving Aims (2-3 Aims)

References (cite in text and provide full references at the bottom of the proposal)

May use additional pages as needed

Appendix 3

Template for Thesis Committee Meeting Progress Report

Written progress reports can be useful tools for structuring your committee meetings. It is recommended that you send your committee members a brief progress report a few weeks before your committee meeting. The goals of the progress report are to update your committee on your progress and accomplishments, identify any needs or concerns, and identify goals for the future. Below is a suggested format for your progress report.

Student Name:

Year started graduate school:

Year of comps:

Meeting date:

Last meeting date:

Committee members:

Thesis mentor:

Title of project:

Summary of progress since last meeting:

Thesis project:

Supporting projects/collaborations/pending publications:

Manuscripts:

Meetings, abstracts and form of presentation (poster/talk):

Fellowships/ Grants:

Other experience, accomplishments:

Potential timeline for the upcoming year and graduation:

Appendix 4

MOLB Mentoring Plan for Mentoring First Year Students

In their first year, MOLB trainees must successfully complete all their classes, pass their Preliminary Examination, and select their PhD thesis laboratory. This process is inherently complex, and is complicated by the lack of a formal PhD mentor until the start of their second year. As such, MOLB provides a formal mentoring framework for first-year trainees.

Several issues often arise in the first year. Many trainees move from different states and do not start with a strong social support network, and incoming trainees are not familiar with MOLB program rules. To facilitate the integration of incoming students into the MOLB program, each student is assigned both faculty and peer mentors from the Graduate Advisory Committee. Below are the responsibilities and expectations of MOLB peer and faculty mentors.

Peer Mentors

Peer mentors are crucial for ensuring the success of first-year students. Peer mentors can provide student perspective and connect first-years to other students. Participation in peer mentoring is strictly voluntary; however, once committed, peer mentors are expected to actively participate in mentoring.

The expectations from peer mentors are listed below.

- 1) *June-July*. Zoom-based meeting with all incoming first-years, followed by one-on-one meeting with your mentee(s).
- 2) *July-August*. Frequent communications (email, zoom) with your mentee(s). The goal is to be available for incoming first-years to ask any questions related to the program, rotation choice, Denver/Colorado, and social aspects of student life.
- 3) *August*. Set up an in-person meeting as soon as your mentee(s) arrives on Campus. The goal of this meeting is to establish a personal connection and answer any questions. Address each of the following topics:
 - a) Picking first rotation.
 - b) Discussion of what is expected in the rotation (from a senior student point of view).
 - c) Discussing what to expect from first-year coursework (e.g. Core).
- 4) *September-May*. Bimonthly in-person meetings. The goals of these meetings are to ensure that the student is doing well and to communicate any potential issues to the GAC. After each meeting, the peer mentor should communicate (verbally or in writing) their opinion of mentee progress to the assigned GAC faculty mentor and the GAC Chair. It is very important to check with your mentee about what information they want to keep confidential. Address each of the following topics:
 - a) Wellness check: does the student have the support they need?
 - b) Picking second and third rotation.

- c) Discussions about potential PhD lab.
- d) Checking how mentee is doing in their classes.
- e) Discussion about expectations in the Preliminary Examination.

Strong mentor/mentee relationships are crucial for navigating the program past the first year and we expect that mentor/mentee relationships will extend into the second year and beyond, as there are additional stressful experiences, including the comprehensive exam, program presentations, and fellowship preparation.

GAC student representatives also play an additional role in student mentoring. Besides being paired one-on-one with incoming students, the GAC student representatives also participate in once-a-semester GAC meetings. Prior to this meeting, the GAC student representatives reach out to all peer mentors to discuss the first-year mentees and prepare short summaries of each first-year's progress.

First Year GAC Faculty Mentor

The main goal for a GAC faculty mentor is to ensure that the first-year student is progressing well and meeting all expectations. This is key to ensure that they successfully pick rotations, complete all the classes, pass the Preliminary Examination and find a PhD lab. It is a challenging part of most students' graduate education, thus frequent communication with your mentee is key to their success. Please note that meetings with your first-year mentee should not be used as an opportunity to recruit them to your laboratory. In fact, if this is a likely possibility, matches should not be made between this student-faculty pair. If a mentor assigned to an incoming student subsequently becomes a rotation mentor, the GAC chair should be made aware of this situation immediately and a different mentor will be assigned to the student.

The expectations from GAC first-year faculty mentors are listed below.

1) *August*. Set up an in-person meeting as soon as your mentee arrives on Campus. The goal of this meeting is to establish a personal connection and answer any questions that the first-years may have. The following topics need to be covered:

- a) Picking first rotation and strategy for 2nd and 3rd rotations.
- b) Discussion of what is expected in the rotation (from faculty point of view).
- b) Discussing what to expect from first-year coursework (e.g. Core).

In the middle of 1st rotation, touch base on how that rotation is going, discuss what they are learning about their mentoring needs and then revisit ideas for 2nd and 3rd rotations.

2) *September-May*. Bimonthly communications with the first-year mentee and with the peer-mentor who will be having monthly meetings with mentee. After each meeting peer-mentor will reach out to GAC faculty mentor to communicate their opinion about mentee progress (see above). The faculty mentor should confirm/ensure that these monthly meetings between students actually occur. Toward the end of each rotation schedule an in-person meeting with the mentee to check how they are doing in current rotation and what are their plans for next rotation. The student and faculty mentor should meet immediately before pursuing a third rotation, as this is often the most critical choice.

In addition to being a mentor, the GAC Chair should ensure that the rotation assessment is completed by the rotation mentor at the end of each rotation and contains substantial feedback. The GAC Chair should also speak with the faculty member corresponding to each completed rotation to check how the mentee did and whether they are considering them as a potential lab member.

Reporting requirements for student and faculty mentors

Each major meeting between a peer/faculty mentor and mentee should be recorded. A simple electronic check-in form will be made available for this purpose. Major meetings include the first personal meeting of the year and the exit interviews from each rotation. You can enter notes for ad hoc meetings, but these should be limited to significant issues that arise during meetings.

Changing mentor

The initial student-mentor pairing is performed by the GAC in consultation with the Recruitment Chair, who is most familiar with the incoming class. However, if there are any communication issues between the student and their faculty or peer mentors, or if a new match is needed for whatever reason, the student can reach out to the GAC Chair, who will offer guidance and find a new match, if necessary.

Appendix 5**Expectations for Lab Members and Tips for Academic Success**

These are some questions to review honestly with yourself and with your mentor a few times during your rotation and throughout your career. They are reasonable expectations for skills that you should be developing as you progress through your time in the labs. Some are more or less applicable depending on your position, but at least some are relevant to everyone, whether you are a temporary rotation student, working in your thesis lab, or as a postdoc, technician, or PI in academia or industry.

Scientific/ Career Development.

1. Are experiments well planned with proper controls?
2. Are the technical aspects of the experiments done well?
3. Are the experiments well documented (can someone else repeat what was done from your lab notebook or written protocol)?
4. Are experiments repeated an appropriate number of times?
5. Are results evaluated critically?
6. Are subsequent experiments logical extensions of previous experiments?
7. If problems are encountered, are experiments designed to identify the problem?
8. Take opportunities to present your work and get feedback.

Work habits

1. Are you organized, keep a detailed lab notebook and organize and archive your stuff?
2. Be a good lab citizen, clean up after yourself and help clean general use areas when needed.
3. Follow rules regarding things to double-check and sign off on if you are the last person to leave the lab.
4. Is work planned efficiently to optimize the amount that can be done?
5. Are experiments planned ahead, so that experiments aren't lost due to lack of reagents?
6. What use is made of waiting periods in experiments? Do your activities promote your success and progress?

Keeping up with the literature and other research.

1. Do you routinely search for and read papers in your research area?
2. Do you search for techniques that might allow you to do new types of experiments?
3. Do you read papers provided for journal club or other recommended papers?
4. Do you regularly attend seminars that are in your research area or in other areas?

Creativity and initiative

1. How much input do you have in the routine design, execution and analysis of your experiments?
2. How much input do you have in the medium-range goals (months) of your experiments?

3. How often do you suggest new approaches or new lines of experiments on your current project?
4. Do you suggest new lines of research?
5. How much personal responsibility do you take for meeting deadlines, devising experiments, and writing papers or grants?
6. If you see a problem in the lab, what is your response (ignore it, complain, suggest a solution, take the initiative to solve the problem)?

Communication skills

1. How effectively can you put together a draft of a paper or a grant?
2. How much help (and in what areas) do you need to complete the project?
3. Can you plan and prepare good slides?
4. How effectively can you assemble a spoken or poster presentation?
5. How effectively can you give a talk?
6. How well can you critique papers or spoken presentations of others?

Interactions with others

1. Do you leave general lab areas, hoods and equipment clean when you've finished?
2. Do you return reagents, equipment etc. to designated places?
3. Do you cooperate with others to share equipment, space, reagents etc.?
4. Do you share information, techniques etc. when asked?
5. Do you volunteer information and/or help others on your own initiative?
6. How do you handle summer students or others who help with your experiments?
7. Give and take constructive criticism well....it is not personal. The successes of each member of the lab reflects well on the whole lab and helps us towards our ultimate goals of understanding biology at the molecular level. Our other major goal since we are at an academic institution is to develop scientific careers, and a large part of that is learning how to take and give constructive criticism.

Appendix 6**Guidelines for Thesis Advisory Committees
Comprehensive Exam and Thesis Defense Exam**

Students are expected to form a Thesis Advisory Committee by March of their second year in consultation with both their thesis advisor and the MOLB Graduate Advisory Committee (GAC) Advisor.

The committee consists of at least four members, with at least three members drawn from the MOLB Program faculty. Four members is recommended; a student can always seek advice from additional faculty without adding them to the committee. The Committee Chair must be a member of the MOLB Program faculty. All committee members must hold active appointments with the Graduate School. It is the student's responsibility to verify that each proposed committee member has an active Graduate School appointment before the committee is formed.

Additional committee members may be added during the course of the student's dissertation research to provide specialized expertise when needed.

Following successful completion of the Comprehensive Examination and advancement to PhD candidacy, the student's thesis mentor may become a member of the committee, replacing one of the original committee members if appropriate. The thesis mentor may serve as a voting member of the committee but may not serve as Committee Chair.

Initial Committee Meeting

The Thesis Advisory Committee should hold its first meeting with the student in the spring semester of the second year, ideally on the afternoon following the student's spring seminar presentation or as soon thereafter as possible.

During this initial meeting, the committee will:

- Evaluate the student's research progress to date.
- Provide guidance on the student's dissertation project.
- Discuss the format and expectations of the Comprehensive Examination.
- Establish guidelines for the Comprehensive Examination.
- Set a tentative date for the Comprehensive Examination.

This initial meeting serves as the student's Pre-Comprehensive Examination Meeting, providing an opportunity for the student to introduce themselves and their research project, receive feedback from the committee, and ensure that both the student and committee have a shared understanding of the Comprehensive Examination format and requirements.

Committee Responsibilities

The primary responsibility of the Thesis Advisory Committee is to support the student's education and scientific development throughout the doctoral program.

Specifically, the committee is responsible for:

- Advising the student on their research progress.

- Monitoring the student's academic and research progress.
- Reporting progress concerns, when appropriate, to the GAC chair or faculty mentor.
- Administering the Comprehensive Examination.
- Providing scientific guidance throughout the student's dissertation research.

Students are required to meet with their committee at least annually, although more frequent meetings are strongly encouraged.

Student Responsibilities

It is the student's responsibility to:

- Form the Thesis Advisory Committee.
- Submit the names of all committee members to the MOLB Program Office.
- Schedule annual committee meetings, which should take place following the student's seminar presentation.
- Notify both committee members and the MOLB Program Office in writing of the meeting date, time, and location at least two weeks in advance.
- Prepare and distribute a written research progress report for each committee meeting.

Conflict of Interest

The primary focus of faculty serving on Thesis Advisory and Comprehensive Examination Committees should be the education and professional development of the student.

Faculty members who identify, or reasonably foresee, a conflict of interest should decline to serve on the committee or recuse themselves if already serving.

One potential source of conflict is the inclusion of spouses on the same committee. Accordingly, Thesis Advisory and Comprehensive Examination Committees in the Molecular Biology PhD Program may not include spouses serving on the same committee.

This policy is not expected to create a practical burden because the Molecular Biology Program includes a large number of eligible training faculty, students may include faculty from outside the MOLB Program on their committees, and students are encouraged to seek additional scientific advice from faculty outside their committee as appropriate.

Thesis Committee Meeting Form

Students are required to meet with their thesis committee at least once per year and are responsible for initiating the Thesis Committee Meeting Form before each meeting. The form is automatically sent to the Committee Chair one business day after the meeting, at which time the Chair evaluates the student's progress. Once the Chair has completed their evaluation, the remaining committee members have the opportunity to provide additional feedback. Detailed instructions for students, committee chairs, and committee members are linked below.

[Thesis Committee Meeting Form Instructions for Students.pdf](#)

[Thesis Committee Meeting Form Instructions for Committee.pdf](#)

[Thesis Committee Meeting Form Instructions for Committee Chair.pdf](#)

Appendix 7**MOLB Comprehensive Exam Rubric**

The Thesis Advisory Committee uses this rubric to evaluate the Comprehensive Exam, scoring four areas, knowledge and scholarship, scientific reasoning and design, written communication, and oral communication, on a 1 to 4 scale by committee consensus. It defines what passing and remediation require, and its central purpose is to give the trainee concrete feedback on strengths and weaknesses; the completed rubric is returned to the student, mentor, full committee, and MOLB director.

Version 2 (updated 08/17/2026). Student: _____ Date: _____ Chairperson: _____

Exam at a glance

Written exam	Follows F31 NRSA formatting (see handbook).
Oral exam	A short (~10–15 min) slide presentation conveying the aims page with relevant details, followed by an interactive whiteboard defense: the committee asks the student to diagram experiments or mechanisms, probes their reasoning, and works through hypothetical results, what a given outcome would mean for the model and what to test next.
Deadline	Complete by December 31 of the student's third year.
Scoring	Each of the four areas below is scored 1–4 by committee consensus (one report, one score per area). A "4" is strong for the student's stage, not perfect.
Passing	A score of 3 or 4 in every area.
Remediation	A score of 1 or 2 in any area requires the committee to consider (not enact) some form of remediation, which will be individually tailored to that area and the student's needs. This can range from a brief recommendation for the trainee/PI to a focused plan (≤ 6 weeks) specifying the required tasks/expectations. Consistent scores of 1 or 2 require the committee to consider if a retake is the proper option.
Roles	The chairperson keeps the questioning focused based on the rubric; the mentor observes only (encouraged to take notes), but may answer committee questions about lab performance.
Output	A key goal of this rubric is to provide feedback (strengths AND weaknesses) to the trainee. The chair summarizes the comments of all committee members and incorporates them into this document, which will also include the required task and expectations

	associated with any remediation, if appropriate. The completed document must be emailed to the trainee, PI, full committee, and MOLB director.
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Scoring rubric

Score	Knowledge & Scholarship (Background, literature, and the molecular mechanism behind the problem.)	Scientific Reasoning & Design (Hypotheses and experiments built to test the proposed mechanism.)	Written Communication	Oral Communication
4	Synthesizes concepts into a clear molecular model; correct, in-depth command of terms, methods, and literature; assesses and integrates prior work and clearly identifies gaps in the field; reasons independently; well-cited.	Clear hypothesis with compelling mechanistic rationale; experiments powered, appropriate, well controlled; alternatives and alternative outcomes weighed; interprets a hypothetical result and identifies the next experiment; rigor, statistics, and reproducibility deeply considered.	Writing clear and effective; graphics well organized; terms correct; fully leverages data, experience, and literature; citations appropriate and deep.	Exceptionally clear; effective slides; focused, on-time ~10–15 min overview; communicates clearly at the whiteboard, diagramming and explaining fluidly; handles iterative questioning with poise, in real time.
3	Solid synthesis and molecular basis; mostly correct with sufficient depth; assesses and integrates prior work, with some gaps in the field identified; familiar with literature; mostly cited; some independence.	Hypothesis with rationale tied to the mechanism; experiments mostly sound; controls and interpretation described; alternatives connected; interprets hypothetical results and proposes a reasonable next experiment; rigor, statistics, and reproducibility sufficiently addressed.	Mostly clear; most graphics effective; most terms correct; partially leverages data and literature; citations organized but sometimes limited.	Mostly clear; overview effective but improvable in clarity, focus, or timing; communicates adequately at the whiteboard; responds coherently, though sometimes needs prompting to stay organized.
2	Some synthesis, but mechanism thinly developed; missing key details; describes prior work but does not assess or integrate it in majority of cases; few gaps identified; some literature or data neglected; little independence.	Weak rationale and thin mechanistic link; experiment description frequently miss key details or are underpowered; weak control interpretation; alternatives undeveloped; hypothetical results interpreted insufficiently, next experiment unclear; rigor, statistics, and reproducibility incomplete.	Writing often unclear and graphics missing important information; some terms correct; poorly reflects data and literature; weak citations.	Below average clarity; partial slides; whiteboard explanations are frequently not clear explanations; struggles to organize responses under questioning.
1	Little synthesis and no articulated mechanism; terms and methods insufficient or incorrect; prior work not assessed or integrated and gaps not identified; rarely cited.	Hypothesis completely unclear and rationale very weak; experiments unclear or inappropriate; controls poor; alternatives insufficient; cannot interpret a hypothetical result or identify a next	Writing unclear and ineffective; graphics uninformative; terms wrong or missing; ignores data and literature; citations lacking.	Unclear and ineffective at the whiteboard defense; slides uninformative; routinely fails to respond coherently to questions.

		experiment; rigor, statistics, and reproducibility absent.		
	Notes	Notes	Notes	Notes

Appendix 8

Guidelines for graduate student 4th rotation: Guidelines for Students.

MOLB and other graduate students typically do three lab rotations and consult with rotation advisors to decide on which laboratory to pursue their thesis work. Occasionally, none of the three labs will be suitable for the student, for any of a variety of reasons. In this case, the student may do a 4th rotation over the summer, after the preliminary exam. However, the 4th rotation is unique in that it carries several special circumstances:

- (1) The 4th rotation lab is usually the only choice a student will have for a thesis lab, with rare exceptions¹.
- (2) Graduate school rules stipulate that students who cannot find an acceptable and accepting lab by the beginning of their second year will be dismissed from the program.

¹Exceptions include: 1. Student has a preferred lab but that lab is waiting on June-August funding decision, and so 4th is alternative if needed. 2. Student has a potential lab but is not sure (or not satisfied) and has strong interest in a 4th lab. 3. Variation of #2, where 4th lab was not available for rotations during the fall-spring period. 4. Other exceptions may apply, but please note that 4th rotations should have strong rationale and require approval of program director and the student advisor (see “Requirements” below).

BEFORE the 4th rotation is established, the student must interview and be interviewed by the prospective fourth rotation advisor, just as they would if they were applying for a job (e.g. a postdoc). It is critical that both the student and the faculty come to a consensus that this is a good lab to pursue PhD thesis work BEFORE starting the rotation. Acceptance of the student for a 4th rotation should be a commitment by the advisor to accept them into the lab, provided that clearly stated expectations are met (see below). If the faculty advisor or student cannot meet these requirements, their lab is not suitable for a 4th rotation.

The student must make sure that the following requirements are met BEFORE undertaking a 4th rotation:

1. The student needs to identify possible 4th rotation labs, make initial inquiries to see if the faculty are interested, and must let the program director and the student advisor know which ones they would like to consider. The program director will then send the faculty their 4th rotation guidelines.
2. The 4th rotation faculty advisor must have the space and interest in training a graduate student for their PhD thesis.
3. The fourth rotation faculty advisor must have secured funds to support the student for their continued thesis work after the rotation period. Usually, the program secures funding from the Office of Research Education to support the student for the 4th rotation.
4. The student must not be competing for a position with any other personnel (e.g. other student, postdoc candidates, or other lab personnel). For example, if the PI wishes to take on two 4th rotation students (from any program), they must be able, interested, and willing to take both for thesis research.
5. The faculty advisor should agree to accept the student into the lab provided that clearly stated expectations are met during the rotation.

6. The student must receive from the faculty advisor a written document by email stating expectations of the student for the 4th rotation.

7. Once the student and faculty have discussed the rotation, the expectations, these requirements, and have come to an agreement, both need to meet with the program director to ensure that all parties are advised of the rotation's parameters and goals.

8 For special cases in which a 4th rotation is desired but not necessarily essential (see "Exceptions" above¹), prior approval of the program director is required. The student must present in writing the reasons for a 4th rotation, and may need to meet with the program director and the student advisor. Because of variable circumstances for different situations, specific modified requirements and guidelines tailored to those circumstances will be given to the student and 4th rotation faculty.

The following guidelines should be followed by the student:

1. Before beginning serious discussions with any potential 4th rotation advisor, the student should (1) first identify several possible labs of interest, (2) find out if they have money, space, and potential interest, and (3) carefully and fully investigate the science of all potential labs. The student MUST have sufficient interest and motivation to pursue their PhD thesis in these labs, before embarking on meeting the pre-rotation requirements listed above. It is strongly advised that the student consider several choices from which they will decide based on more in depth discussions with the faculty and lab personnel. This is very similar to what graduating PhD students do when applying and choosing postdoc labs.

2. Before deciding on the 4th rotation, the student should interview with the faculty advisor to determine if there is sufficient mutual interest in working together.

3. Before deciding on the 4th rotation, the student is strongly advised to meet with other lab personnel, just as they would if they were considering doing a postdoc in the lab. The student is encouraged to talk to former students of the lab as well.

Appendix 9**Guidelines for graduate student 4th rotation: Guide for Faculty.**

MOLB graduate students typically do three lab rotations, and consult with rotation advisors to decide on which laboratory to pursue their thesis work. Occasionally, none of the three labs will be suitable for the student, for any of a variety of reasons. In this case, the student may do a 4th rotation over the summer, after the preliminary exam. However, the 4th rotation is unique in that it carries several special circumstances:

- (1) The 4th rotation lab is usually the only choice a student will have for a thesis lab, with rare exceptions¹.
- (2) Graduate school rules stipulate that students who cannot find an acceptable and accepting lab by the beginning of their second year will be dismissed from the program.
- (3) The Office of Research Education will often fund students for the 4th rotation, but this may depend on circumstances and resources, and requires prior inquiry. It is possible that other funding sources must be found after July 1, typically research or departmental funds of the rotation advisor.

¹Exceptions include: 1. Student has a preferred lab but that lab is waiting on June-August funding decision, and so 4th is alternative is needed. 2. Student has a potential lab but is not sure (or not satisfied) and has strong interest in a 4th lab. 3. Variation of #2, where 4th lab was not available for rotations during the fall-spring period. 4. Other exceptions may apply, but please note that 4th rotations should have strong rationale and require approval of program director and the student advisor (see "Requirements" below).

Therefore, these special circumstances merit special requirements that must be met and guidelines that should be followed before a 4th rotation is undertaken. These requirements and guidelines are described below. Essentially, the faculty advisor should vet and interview the student, just as they would for a postdoc applicant, BEFORE agreeing to take on the student for the 4th rotation. Acceptance of the student for a 4th rotation should be a commitment by the advisor to accept them into the lab, providing clearly stated expectations are met (see below). If the faculty advisor cannot meet these requirements or does not wish to follow them, they should not take on a 4th rotation student.

The following requirements must be met BEFORE a 4th rotation begins:

1. The fourth rotation faculty advisor must have the space and interest in training a graduate student for their PhD thesis.
2. The fourth rotation faculty advisor must have secured funds to support the student for their continued thesis work after the rotation period. Usually, the program secures funding from the Office of Research Education to support the student for the 4th rotation.
3. The student must not be competing for a position with any other personnel (e.g. other student, postdoc candidates, or other lab personnel). For example, if the PI wishes to take on two 4th rotation students (from any program), they must be able, interested, and willing to take both for thesis research.
4. The faculty advisor should agree to accept the student into the lab provided that clearly stated expectations (see #5) are met during the rotation.

5. The student must receive from the faculty advisor a written document by email stating expectations of the student for the 4th rotation. Faculty and student should discuss these expectations. Failure of the student to clearly meet these expectations can justify declining the student a position, but this will likely lead to dismissal from the program.
6. Once the student and faculty have discussed the rotation, the expectations, and come to agreement, the expectations should be emailed to the program director and the student advisor and the student and faculty should meet with them to ensure that all parties are advised of the rotation's parameters and goals.
7. For special cases in which a 4th rotation is desired but not necessarily essential (see "Exceptions" above¹), prior approval of the program director is required. The student must present in writing the reasons for a 4th rotation, and may need to meet with the program director and the student advisor. Because of variable circumstances for different situations, specific modified requirements and guidelines tailored to those circumstances will be given to the student and 4th rotation faculty.

The following guidelines are strongly recommended for faculty BEFORE agreeing to the 4th rotation:

1. The faculty advisor is advised to review the student's records (grad school application and grad school performance records; available from the program administrator). The advisor is also strongly encouraged to communicate with the program director and student advisor, previous rotation advisors, course instructors and other references provided by the student, both to evaluate the suitability of the student for the lab and to identify any potential issues that might need to be addressed during the rotation.
2. The faculty advisor should interview the student, just as they would interview a postdoc candidate, to determine if there is sufficient mutual interest in working together. In addition, it would be wise to have the student meet all other lab personnel, again just as a postdoc or other job candidate would.
3. The faculty and student should meet regularly to assess progress and any issues with the rotation as they occur.

Appendix 10

Policy on Students Changing Thesis Lab

When difficulties in a thesis lab cannot be resolved through the program's normal support structures, a student may leave and seek a new lab. This appendix sets out the process: good academic standing, a required meeting and report to ORE, limited continued stipend support, advising on next steps, and a single four-week transition rotation that ends in a decision on whether the student joins the new lab. The Transition Rotation Proposal and Evaluation Plan that follows is the template the student and prospective mentor complete at the start of that rotation.

Students experiencing difficulties in their thesis labs are encouraged to seek support from structures within MOLB (thesis mentor, GAC, thesis committee, Program Administrator, Program Director (PD)) or structures within the university (e.g., ORE Associate Dean, Office of Student Affairs, Ombuds Office).

When issues cannot be resolved using these structures, leaving the thesis lab may be the best course of action. The Office of Research Education has developed a policy with guidance for how students and/or mentors may decide that a student will leave the mentor's lab. The following MOLB program policy applies to students who are leaving their current thesis lab and seeking to join a new thesis lab.

1. The student must be in good academic standing, as determined by the PD and GAC.
2. The student, with support from the PD and current mentor, will organize a meeting with the current mentor, PD, GAC chair, and thesis committee chair (if applicable) to discuss issues in their current lab that motivated the decision to leave, and potential paths forward. After this meeting, the PD will prepare a report summarizing the issues discussed and submit that report to ORE using the Maxient form. This creates a record for the program and ORE.
3. After the decision to leave lab is made, the current mentor will continue to support the student's stipend for up to 6 weeks during the current semester. This support will not extend into a new semester.
4. If the student is post-comps, the thesis committee chair will help advise the student on next steps and potential new labs. If the student is not post-comps, then the GAC chair will help advise.
5. The student is responsible for identifying a potential new thesis lab and arranging a 4-week rotation. This includes contacting PIs to discuss the possibility of joining their lab, and availability and timing for a rotation. The student will notify the PD and Program Administrator of the rotation plans. If the student is unable to identify a rotation mentor within 6 weeks of leaving their thesis lab, then the student will either request a Leave of Absence or leave the program. The student will contact the PD for guidance regarding these steps.
6. The student will complete a single, 4-week rotation with the potential new lab. The rotation mentor agrees to support 50% of the student stipend during the rotation. ORE will also provide 50% support.
7. At the beginning of the rotation, the mentor and student will develop a rotation proposal including goals for the rotation. This proposal will be provided to the PD.
8. At the end of the rotation, the mentor will meet with the PD and thesis committee chair (or GAC chair, if applicable) to evaluate the rotation and decide whether the student will join the lab. If the student will join the lab, that transition will be effective immediately. If the student will not join the lab, then they will be dismissed from the graduate program.

Transition Rotation: Proposal and Evaluation Plan

For a single four-week rotation under the MOLB policy on changing thesis labs (approved 6/24/25). The student and rotation mentor complete this together in the first week and give a copy to the Program Director.

Student: _____

Rotation mentor / lab: _____

Rotation dates: _____ to _____ Status: ☐ Post-comps ☐ Pre-comps

Stipend: 50% rotation mentor, 50% ORE, per policy.

1. Rotation goals

List three or four things the student will finish in four weeks. Write each one so the mentor can mark it met, partly met, or not met without having to interpret. Favor outcomes the mentor can see ("produce," "complete," "present data on") over open-ended effort.

#	Goal	What counts as success	Evidence / date
1			
2			
3			
4			

2. Student self-assessment

The student fills this in before the rotation starts, so the mentor has an honest starting point.

In two or three sentences, what fell short in your previous project?

What will you do differently here to fix that?

Name one piece of critical feedback you got recently and what you did with it.

3. How the mentor will evaluate

Agreed at the start so the assessment is fair and not a surprise at the end.

Weekly one-on-one; mentor notes met / partly met / not met against each goal.

At least one point where the mentor gives direct, critical feedback and notes how the student responds to it.

In the final week the student presents results and takes unscripted questions on the limitations and next steps.

4. End-of-rotation decision

The mentor meets with the Program Director and the thesis committee chair (post-comps) or GAC chair (pre-comps) to decide whether the student joins the lab. If yes, the transition takes effect immediately. If no, the student is dismissed from the program, per policy.

If the student joins, keep at least two current committee members on the new committee so continuity on the student's needs is not lost.

Student _____ Mentor _____ PD _____ Date _____

Appendix 11

MOLB Seminar Host Duties

MOLB Seminar Series – Procedures and Responsibilities

Outside speakers are an important component of our training program. They provide unique opportunities to learn about new ideas and areas of research, stimulate discussions of our own projects, and provide networking opportunities for students. Each academic year, MOLB Seminar Series will host a set of outside speakers that are supported by either MOLB or Bolie.

This document describes the process for nominating, inviting and hosting speakers, and delineates the responsibilities of hosts and MOLB Program Administrator.

PROCEDURES

1. Nominating speakers

MOLB seminar speakers are selected by two mechanisms:

i) Bolie speakers

Each year all three Bolie Scholars invite Bolie Speaker. This speaker is supported by Bolie Endowment to MOLB. Each fall, Bolie scholars will decide on the speaker and will invite him/her to visit Anschutz Medical campus and give a Seminar in the spring or summer of the following year. Bolie Scholars will then be responsible for hosting Bolie Speaker.

ii) Other Invited Speakers

Each year MOLB will bring 12-15 outside speakers nominated by the MOLB community; either students, postdocs or faculty. The nominations will be asked for by MOLB Seminar Committee, typically in late Winter early Spring. Students, postdocs and faculty are encouraged to submit nominations for the MOLB seminar series.

The process of selecting speakers from all nominees will be determined by MOLB Seminar Committee. Each invited speaker will be hosted by faculty/student (or postdoc) pair. If speaker was nominated by faculty, they will need to find student or postdoc co-host. If speaker was nominated by student or postdoc, they will need to find faculty co-host. Once co-hosts have been determined, they will inform Program Administrator (PA) about who co-hosts are.

2. Inviting the speaker

The Hosts communicate with MOLB Seminar Committee chair to confirm available dates for outside speakers.

The Student Host contacts the speaker with the initial invitation to speak as part of the MOLB Seminar Series and cc's the Faculty Host and Program Administrator (PA). For scheduling flexibility, please request that the speaker indicate 3 choices for preferred dates. Student/faculty/PA will confirm and schedule a date for the speaker to present. The Student Host then writes speaker to confirm the date.

3. Arranging the visit

The PA will send out an email, cc'ing student and faculty hosts, 6-7 weeks prior to the scheduled talk for guest speaker to make needed arrangements (air/hotel), request CV, talk title and preferred needs for presentation/technology. Also at this time, a link to the MOLB faculty web pages is sent for the guest speaker to consider faculty to meet with while on campus.

The Faculty Host will arrange for the speaker to have one-on-one or small group meetings with CU AMC faculty during the visit. If the speaker has communicated campus faculty with whom they would like to meet, those meetings should be the top priority. For the remaining meetings, the Faculty Host can either directly contact faculty who may be interested in meeting with the speaker or can email MOLB program faculty to identify additional faculty who may be interested in meeting with the speaker. At least some of these one-to-one meetings should be with students or postdocs!

Student Host will identify 4-6 students (or postdocs) to have lunch with speaker. MOLB PA will order the food based on information provided by Student Host.

Next, the Faculty Host will create the visit schedule based on polling potential faculty of their availability to meet with the guest speaker. Most visit schedules start at 9 am and will go through 5-6 pm, depending on the number of interested faculty that want to meet with the speaker and also the speaker's flight itinerary.

The Faculty Host is responsible for finalizing the schedule and sending to all participating parties including speaker.

The Faculty Host is also responsible for booking the restaurant for the dinner and inviting dinner attendees (typically 4 in addition to speaker). Half of dinner attendees should be students/postdocs and should include the Student Host.

4. During the visit

The speaker will get breakfast on their own and the Faculty Host or Student Host will pick up the speaker at the hotel in the morning. (Take note that on-campus parking for either the faculty or student host cannot be reimbursed, so please plan accordingly.)

For lunch, the Student Host can either take the speaker and attendees to a nearby restaurant (e.g. T Street Kitchen) or order take-out and hold the luncheon in a conference room on campus. The PA can help reserve a conference room as needed. The Student Host can either arrange with the PA in advance to pay for lunch using the PA's university purchasing card or can pay with their own credit card and submit receipts for reimbursement. Lunch costs cannot exceed \$20 per person- including tax and tip.

The Faculty Host will organize a moderately priced dinner with the speaker. Per ORE rules, the total cost (food, drinks, tip and tax) must be less than \$36/person and a maximum of \$252 for the total meal.

Alcohol must be on a separate tab and cannot be reimbursed from the program. Make sure to have itemized receipt for all food. Faculty Host attending dinner will be responsible for alcohol tab (can also be split between Faculty attending the dinner if agreed). Faculty Host will also pay for the food and will get reimbursement from MOLB PA.

ROLES AND RESPONSIBILITIES

Student Host

Seminar invitation: Student Host communicates with MOLB Seminar Committee Chair and PA to confirm available dates for speakers selected by the seminar committee. Student Host contacts speaker with initial request to speak as part of the MOLB Seminar Series and cc's the Faculty Host and Program Administrator. Student writes speaker to confirm date.

Advertise: Post seminar notice in elevators and bulletin board in RC1 North and South and in RC2.

Organize student luncheon: Invite students (and postdocs) to join for lunch with the speaker. Organize food order or restaurant reservation as needed. PA can place the food order for delivery, but student host should gather the food order and send to the PA (at least 3 business days in advance for the visit) along with the location/time of delivery so that all information is collected for placing the online order.

Faculty Host

Arrange visit schedule: Identify potential faculty to meet with speaker and develop schedule for meetings. The faculty host will be responsible for finalizing the schedule including filling any gaps in the schedule and communicating with the student host for pick-up and breakfast arrangements. Once complete or at least 2-3 days in advance, PA will send schedule to speaker, faculty host and all faculty/students on the schedule.

Arrange dinner: Faculty host will organize a moderately priced dinner with the speaker and faculty. The total cost (food, drinks, tip and tax) must be less than \$36/person and \$252 total meal (limits may vary based on sponsoring department). Alcohol must be on a separate tab and cannot be reimbursed from the program. Host Faculty will be responsible for the alcohol tab and food tab (food tab will be reimbursed later by MOLB PA).

Program Administrator (PA)

Identifying open dates for outside speakers: Work with Seminar Committee to identify open seminar dates relative to other speakers and other program activities. Post the seminar schedule on the MOLB website.

Assist guest speaker with travel arrangements: Send out an email to guest speaker to make needed arrangements (air/hotel), request CV, talk title and preferred needs for presentation/technology. Also at this time, a link to the MOLB faculty web pages is sent for the guest faculty to consider faculty to meet with while on campus. Speaker suggestions should be returned to Faculty Host.

Seminar announcement: Create the seminar announcement and send to Dean's Office so it can be sent to all faculty on the campus. Send to Student Host for posting inside campus buildings. Email to all MOLB community the week prior and on the morning of the seminar.

Sample Speaker invitation

Dear Dr. XYZ,

On behalf of the graduate students from the University of Colorado School of Medicine, I would like to invite you to speak in our 2026-2027 Molecular Biology Seminar Series. I think that your research on XYZ will be of great interest to our program and will also appeal to the community of scientists here. As a program we are focused on a variety of molecular and cellular questions related to your research. Dr. XYZ would be your faculty host and I would be your student host.

The Molecular Biology Graduate program (MOLB) at the University of Colorado School of Medicine is an interdepartmental program (for more information please see: <https://www.cuanschutz.edu/graduate-programs/molecular-biology>). The program seminar series, like the program itself, is diverse with topics ranging from single molecule structure to cancer and development. We feel that a seminar and visit from you would appeal to many faculty and students in the program. Therefore, as an invited lecturer, we ask that you meet with interested faculty throughout the day, enjoy a student lunch after your seminar, as well as a dinner with faculty and students.

Please consider coming to our campus in the 2026-2027 academic year. The first available date is XYZ and the seminars occur every Thursday at noon (below is a list of available dates).

Please let me know if you are interested and if so, pick at least 3 of the below dates that would be best for you. So that we can spread the dates of our seminar speakers, we ask that you please pick dates throughout the academic year. I would be happy to answer any questions that you may have.

Sincerely,

Your name

XYZ Lab

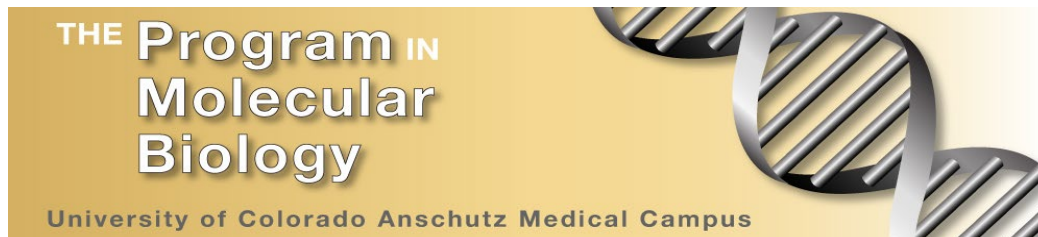
PhD Candidate | MOLB Program

OPEN DATES (please select three dates):

2026-2027 MOLB Seminar Schedule**FALL 2026**

Open dates here

WINTER / SPRING 2027Open dates here

**Marc Edwards, PhD -Amherst College****Thursday, September 24, 2026**

Faculty host: xyz. cell: xxx-xxx-xxxx

Student host: xyz

TIME	EVENT	LOCATION
8:00 - 8:40	Pick up at Hotel Breakfast with Student Host	Meet in Hotel Lobby
8:45 - 9:25	James DeGregori, PhD Professor Department of Biochemistry and Molecular Genetics	RC1 South 9115
9:30 - 10:10	Scott Cramer, PhD Professor Department of Pharmacology	RC1 South 6117
10:15 - 10:55	Chandra Tucker, PhD	RC1 South

7:15	Dinner with Faculty Host and invited guests. The plimoth 2335 East 28th Ave, Denver, CO, United States, 80205	
	Professor Department of Pharmacology	6123
11:00 - 11:40	Kristin Dahl Graduate student – Macklin lab Molecular Biology Program	RC1 South 12115
11:45 - 12:00	Seminar Prep Time The OIT Help Desk Phone Number is: (303) 724-4357 (4-HELP on Campus)	
12:00 - 1:00	CSD Seminar “A mutually inhibitory Ras- PI(3,4)P2 feedback loop regulates migration in <i>Dictyostelium</i> ”	Hensel Phelps East Student Host will introduce
1:00 - 2:00	Lunch with CSD Students: TBN	
2:15 - 2:55	Kristin Artinger, PhD Professor Department of Craniofacial Biology	RC1 South 11112
3:00 - 3:40	Chad Pearson, PhD Associate Professor Department of Cell and Developmental Biology	RC1 South 12116
3:45 - 4:15	Break	RC1 South 12115
4:20 - 5:00	Rytis Prekeris, PhD Professor Department of Cell and Developmental Biology	RC1 South 12112
5:00 - 5:30	Jeff Moore, PhD Associate Professor Department of Cell and Developmental Biology	RC1 South 12100

Appendix 12

- Faculty information/resources
 - [Quick Reference table for membership](#)