Weill Cornell Medicine
Graduate School of Medical Sciences
A partnership with the Sloan Kettering Institute

Graduate Program in Neuroscience
Student Handbook 2024-2025

Graduate Program Personnel

Program Chair: **Dr. M. Elizabeth Ross**
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Program Director: **Dr. Teresa Milner**
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Program Co-Director: **Dr. Jacqueline Burre**
email: **jab2058@med.cornell.edu**

Program Manager: **Ms. Maullika Dua**
email: **mzd2020@med.cornell.edu**

Individualized Flexible Program

Neuroscience by its very nature is a multi-disciplinary field, and our students therefore explore their varied research interests through a combination of activities in the lab and in classroom, as well as personal study. The curriculum is flexible and is developed by each student through consultation with the Director and with her/his Advisor to include basic coursework and lab rotations completed during the first 2 years, followed by an Admission to Candidacy Exam (the ACE), and then completion of a thesis.

Courses

Each student must complete 8 required courses and at least 2 electives that complement each student's areas of interest by June 30th of their second year.

Mandatory Courses in Neuroscience:

1st Year Fall

- *Fundamental Principles and Methods of Neurobiology and Pharmacology (Q1-Q2)*
- *From Neuron to Brain: An Introduction to Neuroscience (Q1-Q3)*
- *Advances in Neuroscience (Q1-Q3)*
- *Neuroscience Faculty and their Research (Q1-Q3)*
- *Progress in Neuroscience Seminar (PINS) (Q1-Q4)*

1st Year Spring

- *Neuropharmacology I: Genes, Drugs and Behavior (Q3)*
- *Addiction and Society (Q3-Q4)*
- *Responsible Conduct of Research: A Tri-Institutional Program for Research Trainees*
  Mandatory Graduate School Requirement

2nd Year

- ***Introduction to Biostatistics*** *(Q3-Q4) **

**Mandatory requirement to take in 2nd Year.*

Elective Courses in Neuroscience (suggested – varied years):
Clinical Genetics for Neuroscientists (Q3 or Q4)
Current Topics in Neurodegeneration (Q3-Q4)
Introduction to Neuroimmunology (Q3-Q4)
Mathematical Structures in Neuroscience (Q3-Q4)
Neural Control of Organ Degeneration & Regeneration (Q3)
Developmental Neurobiology (Rockefeller University- varied years)

Other Elective Courses in the Graduate School:
Introduction to Pharmacology (Q 1,2)
Molecular Genetics (Q 1,2)
Biochemistry and Structural Bio Core (Q 1,2)
Principles of Developmental Biology (Q1)

Please also view the 2024-2025 course catalog for alternative course offerings

LABORATORY ROTATIONS & EXPECTATIONS

1. All students must complete 3 lab rotations during the first two years (Students must start their 1st rotation **no later than December in the most extreme circumstances**). The student will choose a Thesis mentor based on the lab rotation experience and acceptance by the faculty member directing the lab.
2. Laboratory rotations last 2-3 months each, the average student spends between 10-14 weeks rotating in a lab. The minimum is 8 weeks, the maximum is 16 weeks. **3 months is recommended**.
3. Students are expected to begin their laboratory rotations **no later** than November of their 1st year. If you will be starting past November, you **must notify Neuroscience Program Leadership**.
4. Please consider your lab rotations carefully, each student must complete 3 laboratory rotations and by their 3rd most students are aware of their thesis lab. If a student has not found a thesis lab, a 4th lab rotation is encouraged. **By the beginning of September, students are expected to have a thesis lab, complete 2nd year course work, and begin research on their ACE.**
5. Laboratory Rotations can be done with Neuroscience Graduate faculty members and/or labs from other programs in the graduate school (i.e. Immunology, BCMB, etc.) or at Memorial Sloan Kettering; as long as the student's research is tied to Neuroscience. If you have questions about rotating with faculty or becoming part of a lab that does not have a Neuroscience appointment, please consult with the program director.

Students should decide on laboratory rotations by discussing opportunities with individual faculty members. Rotations allow students to get hands-on experience with experimental approaches that interest them and **provide an opportunity for students to get to know faculty with whom they may wish to do their thesis work**. Most importantly, they provide an opportunity to learn how to design controlled experiments, evaluate data, present their data to scientific colleagues, and make new discoveries!

RECRUITMENT

To enhance the state of the Graduate Program, 1st, 2nd, and 3rd years are expected to participate in recruitment days (February of each year). Students will be paired with prospective candidates as an opportunity to help promote the program.

Recruitment Dates:

- **February 11-13, 2025**

Additionally, all forms and handbooks are accessible via the Graduate School website. It can be located: http://gradschool.weill.cornell.edu/student-experience/student-forms

ACE (QUALIFYING) EXAM

Prior to July 1st of year 2, students must successfully complete the ACE (admission to candidacy examination). The ACE is designed to test the student's general knowledge of neuroscience and includes preparation of an original written research proposal. In consultation with the thesis advisor and with the consent of the director of the program, the student chooses an ACE topic and committee.

Guidelines: The ACE topic MAY deal with the topic of the proposed thesis, but it is not required that the topic of the ACE should eventually be incorporated into the student's PhD dissertation. No preliminary experimental data are required for the ACE. The written and oral are expected to be grounded in the published literature, not the student's own data. The topic may differ from the thesis in model system, methodology or question. The student can meet with the committee about the proposed topic and the thesis advisor can give general feedback on the appropriateness of the aims and design. The format follows the instructions to the individual NRSA NIH graduate fellowship application, except that no experimental pilot data are required or expected in the ACE.

The committee should consist of at least 4 examiners, 3 of whom must be on the neuroscience graduate faculty. These members will include a designated neuroscience faculty member to serve as chair of the committee, the student's thesis advisor and two other faculty members. **The written ACE should be submitted to the graduate school and program administrator 2 weeks before the oral defense** of the ACE. The format of the ACE should be the new NRSA format, with a complete abstract for the proposal, a 1 page specific aims and 6-page research plan and separate pages for references. Please be sure to read and cite empirical studies rather

than reviews. Please reference the "ACE Checklist" form for further information on formatting and your committee.

ACE Exam must be completed no later than June 30th of 2nd year.

Vacation Policy

Any time off **must** be discussed and approved by the PI. This absence is applicable whether you are on a rotation or with your thesis mentor.

News and Events

Make sure to be updated with events at Cornell. There are monthly seminars, workshops, and networking events held at the graduate school. For more information, please visit http://gradschool.weill.cornell.edu/about-us/news-and-events

The BIG D (Dissertation)

After successful completion of coursework and the ACE, the student should form a special committee to oversee their thesis that consists of a designated neuroscience faculty member to serve as chair of the committee, the student's thesis advisor and two other graduate faculty members. This **special committee must meet at least once a year** to provide advice concerning the direction of the thesis. Upon completion of the thesis, the student will prepare the work for publication, present it to the University in an open seminar, and defend the validity of the work before the committee and the members of the Program.

Forms and more information are available from the Graduate School and can be found at this link: https://nexus.med.cornell.edu/display/gradschool.

Program & Graduate school Activities

Graduate students are encouraged and expected to participate in Program and Graduate school activities, including the annual retreat (mandatory), recruitment, Vincent du Vigneaud Research Symposium and other neuroscience activities posted by the Program.

If a student is interested in traveling to a conference, she/he must be presenting a poster and first submit a travel request form to the graduate school. The student pays for costs up front, and is reimbursed up to $1,200 per year.

NEUROSCIENCE STUDENT DIRECTORY

Year	Name	Thesis Lab
2	Barr, Olivia	
2	Bulzomi, Erica	
2	Ciacciarelli, Evan	
2	Donatelle, Alexander	
2	Evans, Brian	
2	Foxe, Nessa	
2	Hardin, Evelyn	
2	He, Yi (Francis)	
2	Martinez de Kraatz, Marisela	
2	Mahoney, Matthew	
2	McAleer, Jacqueline	
2	McMahon, Lorna	
2	Singh, Ashna	
2	Tomas Baltazaar, Citlalli	
2	Torres Sicairos, Isis	
2	Tuttman, Anna	
2	Zambelas, Joseph	
3	Booraem, Caroline	Anna Orr/Adam Orr
3	Fall, Alexandra	Francis Lee
3	Gillies, Christie	Amy Kuceyeski
3	Ijaz, Laraib	Anna Orr
3	Mankaliye, Berk	M. Elizabeth Ross
3	Miller, Alekso Milo	Iliyan Iliev
3	Radanovic, Ana	Amy Kuceyeski
3	Rahman, Maliha	Lorenz Studer
3	Rao, Aditya	Manu Sharma
3	Sciortino, Rose	Miklos Toth
3	Silberstein, Dana	Teresa Milner/Michael Glass
3	Swope, Cameron	Jimcy Platholi
3	Villegas, Anthony	Amy Kuceyeski
3	Welday, Jacqueline	Kristen Pleil
4	Betancourt, John	Simon Sheuring
4	Bukhari, Syed Hussain	Conor Liston
4	Cross, Abigail	Yueming Li
4	Evangelisti, Alessandro	Lorenz Studer
4	McDonough, Samantha	Manu Sharma
4	Schilling, Louisa	Amy Kuceyski/Conor Liston
4	Wang, Tao	Luis Parada
5	Baako, Ann	Thomas Vierbuchen/Justin Perry
5	Barnett, Daniel	Anna Orr
5	Castagnola, Caitlin	Li Gan
5	Foord, Careen	Hagen Tilgner
5	Hamilton, Pauline	Conor Liston/Jonathan Power

5	Munoz, Eduardo	Anna Orr
5	Parra Bravo, Celeste	Li Gan
5	Sonustun, Berkiye	Lorenz Studer
5	Walsh, Alexander	David Simon
6	Al-Naama, Njoud	M. Elizabeth Ross
6	Baker, Madelyn	Anjali Rajadhyaksha/Miklos Toth
6	Estrin, David	Conor Liston
6	Mitrano-Towers, Patrick	Geoffrey Pitt
6	O'Cinneide, Emma	Josef Anrather
6	Shahanoor, Ziasmin	Jeremy Dittman
6	Simon, Amanda	Diany Calderon
7	Jackvony, Stephanie	Lonny Levin
7	Liu, Bangyan	Li Gan
7	Politowska, Nicole	Miklos Toth
7	Southwell, Nneka	Giovanni Manfredi

M.D./Ph.D.'s

	Das, Lala Tanmoy	Geoffrey Pitt
	Davidson, Rina	David Simon
	Dua, Alisha	Conor Liston
	Karabinas, Isabella	Logan Grosenick
	Mikofsky, Rachel	Conor Liston
	Shaver, Daniel	Conor Liston
	Pachas, Miguel Chavez	Lorenz Studer
	Zhou, Constance	

NEUROSCIENCE GRADUATE FACULTY AND EMAIL CONTACT

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RULES AND RESPONSIBILITIES FOR NEUROSCIENCE PROGRAM STUDENTS

Details for the rules and regulations for all graduate students are in the Code of Legislation (COL) of the Weill Cornell Graduate School of Medical Sciences of Cornell University. Below are additional rules and responsibilities for the Neuroscience (NS) Program. These and other important guidelines and forms are available at https://gradschool.weill.cornell.edu/student-experience/student-forms.

LABORATORY ROTATIONS (FIRST YEAR STUDENTS)

(WCGSMS Code of Legislation, pgs. 19, 21)

1) **Lab rotation form:** Students must complete 3 lab rotations. However, they can do a fourth rotation. Students should initiate a lab rotation form in LEARN at the beginning of each rotation. Students must complete the lab rotation form within two weeks of completing their rotation. It is the student's responsibility to make sure that the forms are fully submitted in LEARN including reaching out to their Preceptor. Contact the Program Administrator if problems are encountered. Submission of laboratory rotation forms is required for a student to maintain good academic standing.
2) **Laboratory rotation expectations:** Students are expected to spend at least 15 hours per week in the lab. Each rotation should be 8 weeks minimum but no longer than 12 weeks. Students are expected to provide 1-2 page writeup or a copy of their final lab presentation slides summarizing their lab experience with the lab rotation form. The content should include specific aims with background, hypothesis, goals as well as results and a discussion of their interpretation.

ADVANCEMENT TO CANDIDACY EXAM (ACE) GUIDELINES (SECOND YEAR STUDENTS)

(WCGSMS Code of Legislation, pgs. 15-17)

1) **ACE deadline:** Students must take their ACE exam prior to June 30th of their second year.
2) **ACE procedures:** In October of the 2nd year, the NS Program Directors will review ACE procedures with the students.
3) **Advisor selection**: The student must send their Major Sponsor's name as soon as it is known and no later than December 15th to the NS Program Administrator. If more time is needed to select a Major Sponsor, the student should contact the Program Directors or Program Chair.
4) **Proposal instruction workshop (required)**: In early January, Nora McCall (Office of Fellowships and Scientific Writing) will provide an instructional workshop of the preparation of the ACE proposal. This includes instructions in preparation of the Specific Aims page and in the Approach.
5) **ACE committee:** Students should assemble their ACE committee and send the names of their committee members to the Program Administrator by January 31st. The committee consists of the Major Sponsor and 3 or more faculty members. Three of the Faculty (including the sponsor) must be members of a Program in the Weill Cornell Graduate School, as only WCGS faculty may vote to pass the student. Instructions for the ACE

protocol will be sent to the Major sponsor and committee members as soon as they have been selected.

6) **Meeting with the Chair:** Students will be individually meeting with the Program Chair to discuss their ACE progress in February.
7) **ACE date:** ACE meetings are scheduled for 2 hours. Students should submit their ACE date (established with the ACE committee approval) to the NS Program Administrator by March 1st.
8) **ACE proposal first draft:** Students should submit an approximately 1-page summary of their research proposal to their committee members by end of February. Committee members have 2 weeks to provide feedback on the proposal. However, faculty are asked not to provide detailed edits to the proposal. Students have 2 weeks to revise if needed. If extensive revisions are needed, the ACE should be postponed (no later than June 30th). Approval from the committee chair should be sent via email to the Program Administrator. Students should meet frequently with their committee members to get feedback on their proposal!
9) **ACE proposal format:** Students are highly encouraged to submit their ACE proposal in the format of a fellowship application (e.g., F31). The proposal should be 7 pages total, including one specific aims page and a 6-page research plan including summary figures and preliminary data if existing (but not required) and excluding references.
10) **Full ACE proposal:** The full proposal is due to be distributed to the committee 4 weeks before the scheduled ACE. The committee will provide feedback within 1 week after submission. A final version after incorporating edits from the committee is due no later than 2 weeks prior the scheduled ACE to the graduate school.
11) **ACE:** On the day of the ACE, the committee members will excuse the student and vote as to whether or not the written document is acceptable. The committee will not proceed with the oral exam if the written ACE does not receive a PASS. If the written document is tabled, the student will revise the document with assistance from the committee, and re-schedule the ACE. If a student passes the ACE, they are admitted to PhD candidacy. Students can pass the ACE for Master's degree only (for details see the WCGS policy guidelines).

THESIS COMMITTEE MEETINGS (POST ACE STUDENTS)

(WCGSMS Code of Legislation, pgs. 15, 18, 19)

1) **Special committee:** The Special thesis committee members do not have to be the same faculty who were on the ACE committee. The committee consists of the sponsor and 3 or more faculty members. Three of the faculty (including the thesis advisor) on the committee must be members of the Weill Cornell Graduate School. The selection of the Special Committee including the Chair must be selected, approved by the Program Directors or Chair and submitted to the WCGSMS office within 3 months after completion of the ACE. (WCGSMS Code of Legislation, pgs. 15-16). Instructions for Thesis Committee protocol will be sent to Major sponsor and committee members as soon as they have been selected.
2) **Frequency:** Thesis committee meetings must be scheduled at least every 12 months. More frequent meetings (e.g., every 6 months) are encouraged and are required after

year 5 of graduate training. Students can meet as frequently as needed. Meetings can be in-person, remote or hybrid.

3) **Scheduling:** Schedule meetings at least 3 months in advance. Schedule thesis committee meetings for 1.5 hours, unless committee requests additional time. Contact the Program Directors or Chair if you are having difficulties scheduling the meetings.
4) **Communication:** Maintain communication with the committee members throughout the conduct of the thesis work.
5) **Preparation:** The student must send a 1-2 page summary of their work ≥ 1 week ahead of the thesis committee meeting. The summary should include plans for future experiments and how their work will be organized into potential manuscripts.
6) **Thesis Committee Form:** Students must initiate the thesis committee form in LEARN at least one-week ahead of the meeting. The student should alert the Thesis Advisor and the Chair of the Committee to expect the form to be routed to them.

OTHER POST-ACE REQUIREMENTS

1) **Individual Development Plans (IDPs):** Students should update IDPs annually by July 1st (https://gradschool.weill.cornell.edu/student-experience/student-forms) . Note that this requires a discussion with the mentor. Completing the IDPs is necessary to remain in good academic standing.
2) **Presentations:** Students are required to give at least one poster or oral presentation annually. Presentations could be local (e.g., BMRI Work-in-Progress, Appel Work-in-Progress, Du Vigneaud Symposium, Program Retreat) or external (e.g., scientific meetings).

THESIS DEFENSE

(WCGSMS Code of Legislation, pgs. 17, 18)

1) **Guidelines for dissertation preparation and final submission:** See the WCGSMS Code of Legislation (pgs.17-18) for description of thesis defense. Details for the format of the thesis can be obtained from (contact person in WCGSMS).
2) **Dissertation deadlines:** Students must submit their dissertation at least 30 days before their Final Examination (thesis defense) to committee members.
3) **Thesis defense committee:** The thesis defense committee and chair are typically the same faculty as the thesis committee members. The committee must consist of at least 4 members. Three of the faculty on the committee must be members of the Weill Cornell Graduate School. If needed, additional faculty can be added. (WCGSMS Code of Legislation, pgs. 15-16)
4) **Dissertation defense:** Schedule 1 hour for thesis defense presentation and 1.5 hours for thesis defense meeting with the committee. The oral presentation and closed session examination may take place in different rooms.
5) **Publications:** Students should have a body of work that is either accepted, submitted or soon to be submitted for publication.

OTHER REQUIREMENTS (ALL STUDENTS)

1) **Laboratory work week:** In-person work in the laboratory is not limited to Monday-Friday 9am-5pm. However, if students will be working in the laboratory alone they must obtain a NY Fire Department C-14 Certificate of Fitness (COF). Details for obtaining the COF are available at: https://ehs.weill.cornell.edu/safety/chemical-safety/certificate-fitness-c-14
2) **Vacations/ extended absences:** Students are expected to do lab work during times outside of the academic year. Planned vacations should be approved by either the Program Directors or Chair (1st and 2nd year students) or the thesis advisor (students 3rd year and beyond) at least 1 month prior to the departure date and should be no longer than two weeks. Exceptions require petition to the Directors. The Program Directors or Chair should be notified of extended leaves or emergency leaves as soon as possible (WGSMS Code of Legislation pgs. 14-15).

Contacts

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