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

Graduate Program in Neuroscience
Student Handbook 2023-2024

GRADUATE PROGRAM PERSONNEL

Program Chair: **Dr. M. Elizabeth Ross**
email: **mer2005@med.cornell.edu**

Program Director: **Dr. Teresa Milner**
email: **tmilner@med.cornell.edu**

Program Administrator: **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 6 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)*
- *Neuropharmacology II: Neuropeptides, Pain & Drugs of Abuse (Q4)*
- *Responsible Conduct of Research: A Tri-Institutional Program for Research Trainees*
  Mandatory Graduate School Requirement

2nd Year

- ***Introduction to Biostatistics** (Q1 or Q2) **

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

Elective Courses in Neuroscience (suggested – varied years):
Clinical Genetics for Neuroscientists (Q2)
Addiction and Society (Q3-Q4)
Current Topics in Neurodegeneration (Q3-Q4)
Introduction to Neuroimmunology (Q3-Q4)
Mathematical Structures in Neuroscience (Q3-Q4)
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 2023-2024 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 14-16, 2024**

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 $800 per year.

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NEUROSCIENCE STUDENT DIRECTORY

Year	Name	Thesis Lab
2	Booraem, Caroline	
2	Gillies, Christie	
2	Ijaz, Laraib	
2	Mankaliye, Berk	
2	Miller, Alekso Milo	
2	Radanovic, Ana	
2	Rao, Aditya	
2	Rahman, Maliha	
2	Sciortino, Rose	
2	Silberstein, Dana	
2	Swope, Cameron	
2	Villegas, Anthony	
2	Welday, Jacqueline	
3	Betancourt, John	Simon Sheuring
3	Bukhari, Syed Hussain	M Elizabeth Ross
3	Cross, Abigail	Yueming Li
3	Evangelisti, Alessandro	Lorenz Studer
3	McDonough, Samantha	Manu Sharma
3	Schilling, Louisa	Amy Kuceyski/Conor Liston
3	Wang, Tao	Luis Parada
4	Baako, Ann	Thomas Vierbuchen/Justin Perry
4	Barnett, Daniel	Anna Orr
4	Castagnola, Caitlin	Li Gan
4	Foord, Careen	Hagen Tilgner
4	Hamilton, Pauline	Conor Liston/Jonathan Power
4	Munoz, Eduardo	Anna Orr
4	Parra Bravo, Celeste	Li Gan
4	Sonustun, Berkiye	Lorenz Studer
4	Walsh, Alexander	David Simon
5	Al-Naama, Njoud	M. Elizabeth Ross
5	Baker, Madelyn	Anjali Rajadhyaksha/Miklos Toth
5	Carling, Gillian	Li Gan
5	Estrin, David	Conor Liston
5	Mitrano-Towers, Patrick	Geoffrey Pitt
5	O'Cinneide, Emma	Josef Anrather
5	Shahanoor, Ziasmin	Jeremy Dittman
5	Simon, Amanda	Diany Calderon
6	Hopland, Kelsey	Vivanne Tabar

6	Jackvony, Stephanie	Lonny Levin
6	Jain, Tanya	Yueming Li
6	Liu, Bangyan	Li Gan
6	Molle, Nicole	Miklos Toth
6	Southwell, Nneka	Giovanni Manfredi
6	Waraich, Suniyaa	Jonathan Victor
7	Lee, Andrew	Alex Joyner
7	Lin, Susan	Geoffrey Pitt
7	Nabila, Anika	Miklos Toth
7	Sayles, Nicole	Giovanni Manfredi

M.D./Ph.D.'s

	Das, Lala Tanmoy	
	Davidson, Rina	
	Dua, Alisha	
	Karabinas, Isabella	
	Mikofsky, Rachel	
	Shaver, Daniel	Conor Liston
	Pachas, Miguel Chavez	
	Zhou, Constance	

NEUROSCIENCE GRADUATE FACULTY AND EMAIL CONTACT

Josef Anrather –joa2006@med.cornell.edu
Jacqueline Burre – jab2058@med.cornell.edu
Diany Paola Calderon - dpc2003@med.cornell.edu
Sunghee Cho-suc2002@med.cornell.edu
Dilek Colak – dic2009@med.cornell.edu
Natalia De Marco-nad2018@med.cornell.edu
Jeremy Dittman-jed2019@med.cornell.edu
David Eliezer – dae2005@med.cornell.edu
Khalid Fakhro – khf2002@med.cornell.edu
Giuseppe Faraco – gif2004@med.cornell.edu
Li Gan - lig2033@med.cornell.edu
Daniel Gardner-dgardner@med.cornell.edu
Gary Gibson-ggibson@med.cornell.edu
Michael Glass-mjg2003@med.cornell.edu
Peter Goldstein-pag2014@med.cornell.edu
Muralidhar Hegde - mlhegde@houstonmethodist.org
Barbara Hempstead-blhempst@med.cornell.edu
Karin Hochrainer - kah2015@med.cornell.edu
Edmund Hollis - edh3001@med.cornell.edu
Andrei Holodny – holodnya@mskcc.org
Philip Horner – pjhorner@houstonmethodist.org
Xin-Yun Huang- xyhuang@med.cornell.edu
Costantino Iadecola-coi@med.cornell.edu
Samie Jaffrey-srj2003@med.cornell.edu
Alexandra Joyner-joynera@mskcc.org
Barry Kosofsky-bar2009@med.cornell.edu
Amy Kuceyeski – amk2012@med.cornell.edu
Eric Lai – laie@mskcc.org
Shenela Lakhani – shl2034@med.cornell.edu
Francis Lee-fslee@med.cornell.edu
Lonny Levin-llecin@med.cornell.edu
Yueming Li-liy2@mskcc.org
Conor Liston-col2004@med.cornell.edu
Giovanni Manfredi-gim2004@med.cornell.edu
Teresa Milner-tmilner@med.cornell.edu
Lish Ndhlovu-lndhlovu@med.cornell.edu
Adam Orr- alo2012@med.cornell.edu
Anna Orr – ago2002@med.cornell.edu
Virginia Pickel-vpickel@med.cornell.edu
Geoffrey Pitt - geoffrey.pitt@med.cornell.edu
Jimcy Platholi - jip2003@med.cornell.edu
Kristen Pleil – krp2013@med.cornell.edu

Glen Prusky- glp2004@med.cornell.edu
Keith Purpura-kpurpura@med.cornell.edu
Anjali Rajadhyaksha-amr2011@med.cornell.edu
Rajiv Ratan-rratan@burke.org
M. Elizabeth Ross-mer2005@med.cornell.edu
Tim Ryan-taryan@med.cornell.edu
Vibhu Sahni – vis2763@med.cornell.edu
Dimitri Sayenko - dgsayenko@houstonmethodist.org
Nicholas Schiff- nds2001@med.cornell.edu
Manu Sharma- mas2189@med.cornell.edu
David J. Simon - djs4002@med.cornell.edu
Lorenz Studer-studerl@mskcc.org
Ching-Hwa Sung-chsung@med.cornell.edu
Viviane Tabar- tabarv@mskcc.org
Hagen Tilgner – hut2006@med.cornell.edu
Miklos Toth-mtoth@med.cornell.edu
Jonathan Victor-jdvicto@med.cornell.edu
Thomas Vierbuchen – vierbuct@mskcc.org
John Wagner-jawagne@med.cornell.edu
Yi-Lan Weng –yweng@houstonmethodist.org
Dianna Willis- diw2004@med.cornell.edu
Zhuhao Wu-zhw4007@med.cornell.edu
Yutaka Yoshida-yoy4001@med.cornell.edu
Jian Zhong-jiz2010@med.cornell.edu