WELCOME

to the

NEUROSCIENCE

GRADUATE TRAINING PROGRAM
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On behalf of the entire Neuroscience training faculty, we would like to welcome you to Mount Sinai and to the Neuroscience Multidisciplinary Training Area (MTA). We have prepared this "welcome letter" to help you familiarize yourself with the program and to give you a heads-up to what's coming down the road as you start your graduate training. All of this information will be repeated throughout the year and is also available on the Neuroscience training program website (http://icahn.mssm.edu/education/graduate-school/degrees-and-programs/phd-program/multidisciplinary-training-areas/neuroscience).

1. **Courses**

We have prepared a comprehensive Neuroscience Core course and and a number of advanced courses designed to expose students from a wide range of backgrounds to principles of brain structure and function, spanning molecules, synapses, cells, circuits, behavior and disease.

During the first year, you will take our required Neuroscience Core course (*Principles of Neural Science, Behavior and Pathophysiology*). This Core course comprises four Units. In the Fall term, you will take Unit 1: Cellular and Molecular Neuroscience (BSR1705); in the Spring-1 term, you'll take Unit 2: Systems Neuroscience (BSR1706); and in the Spring-2 term, you'll take Unit 3: Behavioral and Cognitive Neuroscience (BSR1707) and Unit 4: *Pathophysiology of Neurological and Psychiatric Disorders* (BSR1708). You must register for each Unit separately. This course meets M-F, 9-9:50am in the Icahn Building, room 10-84 (Units 1-2) or T and Th, 8:30-9:50 (Unit 4); Unit 3 meets M and W, 8:30-9:50 in the Hess building, room 9-101.

While taking Unit 4 in the spring term, PhD students are also required to register for *Topics in Clinical Neuroscience*. This *Topics* course is designed to reinforce and complement Unit 4, and includes exposure to patients presenting the disease or disorder that corresponds to the subject discussed simultaneously in Unit 4.

Additional course requirements during the first year include Responsible Conduct in Research; Biostatistics; "Selected Topics in Neuroscience", which is a works-in-progress/journal club series; and our weekly Translational Neuroscience Seminar series.

Thereafter (anytime in years 2-4), PhD students are required to take a minimum of two advanced elective courses. Check the website and the Registrar for current lists of advanced courses in Neuroscience, Genetics and Genomics, DTE, Pharmacology or other training areas that may be of interest.
Students should register for "Selected Topics in Neuroscience" in Years 1-4. Attendance is required for Year 1 and 2 students. Annual presentations are required for Year 2, 3 and 4 students.

2. **Laboratory Rotations**

Students usually take 2-3 laboratory rotations of about ~10 weeks each. At the end of each rotation period, the Graduate School organizes Rotation Presentations, where students from all training areas (not just Neuroscience) must give a 10 min talk to other graduate students and their MTA directors followed by questions. Students give two rotation talks during the first year, and the choice of which rotations to present is left to the student. Students should plan their rotations carefully: these are the labs that you are potentially interested in for your thesis work. As such, the goal of the rotation is to experience a prospective lab in terms of the kind of science it focuses on, the methods and approaches used, the lab "dynamic" between students, technicians, postdocs and the PI, etc. Conversely, the lab is experiencing you—are you the kind of colleague that would excel in and contribute to that environment? Picking a thesis lab ultimately requires mutual agreement between both you and the PI. While you are expected to be in the lab and work hard during your rotation, you are NOT expected to produce a finished study. PIs should be willing to give you time to prepare for your course exams. Attached is a list of current Neuro faculty who are accepting rotation students presently. Please contact them directly to setup your rotations.

3. **Advisory committees**

All incoming first-year students are assigned a Neuroscience faculty advisor. Your advisor and the Neuroscience Training Area Co-Directors (Drs. Huntley and Salton) are the people to whom you can turn if you have questions, problems or need advice. After the first year, as the student advances toward completing their coursework, takes the General Knowledge qualifying exam, chooses a lab for their thesis work, and prepares to submit and defend their thesis proposal (see below for further details), a new committee (the Dissertation Advisory Committee) will be formed, generally consisting of three members and the thesis advisor. Students are required by the Graduate School to meet with their Dissertation Advisory Committee a minimum of once a year. The progress report of this advisory meeting, with sections compiled by the student, committee, and mentor, including a detailed student Individual Development Plan (IDP), needs to be completed, signed, and returned to the Graduate School. Often the committee, mentor, and student agree to meet more frequently if this would be helpful.
4. **General Knowledge qualifying exam**

The General Knowledge exam is an oral, ~2-hour exam administered by a four-person committee who will test your cumulative knowledge of fundamental principles of neuroscience. Prospective thesis preceptors or rotation supervisors are not allowed to attend this exam. There is no written component. The exam covers what you have learned in Neuro Cores 1, 2, 3, and 4, as well as material you may have been exposed to in any of the Seminar or works-in-progress series. This means that test-topics can range from didactic material to experimental or conceptual approaches in the context of papers that were presented in the courses, but it is not a test specifically on your laboratory rotations or prior laboratory experience. During the exam, you will be encouraged to draw and/or diagram your answers on the board. Students can begin to schedule their exam anytime starting in the summer (between Years 1 and 2, after the completion of Cores 1-4) and extending early into the fall (latest December) of year 2. The Graduate School schedules the time and location of all exams based on the time-frame that you indicate. The Neuro MTA directors select the qualifying exam committees. Generally, one Neuro MTA Co-Director is on every exam for consistency. We also solicit from each of you the names of any faculty that you would particularly like to have on your committee, and any faculty that you would particularly NOT want on your committee. We encourage students to study together for the exam, and especially encourage older students to provide "mock" qualifying exams to students preparing to take the exam. If a student does not pass on the first round, they have one more chance to take and pass the exam. Passing this General Knowledge exam is required to "advance" to candidacy, allowing you to move forward in the program to the next phase which is your thesis proposal.

5. **Preparing and defending your thesis proposal**

Typically students assemble their thesis proposal sometime between Years 2-3. By this time, rotations are finished, Core classes have been completed, the General Knowledge exam has been passed, and you have identified a mentor who has agreed to support you in the laboratory for your thesis project. The thesis proposal document follows precisely the format of the Ruth L. Kirschstein NRSA (National Research Service Award), the NIH predoctoral fellowship (http://grants.nih.gov/grants/guide/pa-files/pa-11-111.html). Briefly, this is one-page for your Specific Aims, followed by a maximum of six-pages for Background and Significance, Preliminary Data and Research Strategy. References are not counted as part of the six-page limit (but figures are counted as part of the six-page limit). You are not required to have extensive preliminary data, but you should be able to demonstrate that your ideas are well-grounded and the methods you propose are appropriate and feasible. You will present your research plan to your thesis proposal exam committee in a formal oral presentation format. The Thesis Proposal Exam Committee consists of your 3-member Dissertation Advisory Committee plus one additional faculty member (so at least 4 members, one of whom will be nominated to chair the committee by one of the MTA Co-Directors; in addition, your preceptor must be present for this exam). A registration form for the thesis proposal exam, signed by one of the MTA Co-Directors, must be submitted to the Graduate School. The dissertation advisory and thesis proposal
committees are chosen by you and your preceptor. The idea is to pick committee members that have particular expertise--either conceptual or methodological--who can help you accomplish your scientific goals. Unlike the General Knowledge exam, you are not required to have a Neuroscience MTA director serve on your dissertation committee. At the time when you defend your thesis work, your Dissertation Advisory Committee--plus one additional member from outside Mount Sinai--will serve as the final Thesis Defense examining committee.