YALE UNIVERSITY

NEUROSCIENCE PROGRAM

HANDBOOK
FOR GRADUATE STUDENTS
AND PARTICIPATING FACULTY
NEUROSCIENCE TRACK ADMINISTRATIVE OFFICES

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<tr>
<th>Role</th>
<th>Name</th>
<th>Campus Address</th>
<th>Phone</th>
<th>Fax Number</th>
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<tbody>
<tr>
<td>INP Co-Director</td>
<td>Charles Greer</td>
<td>FMB 412</td>
<td>785-4034</td>
<td>737-2159</td>
</tr>
<tr>
<td>INP Co-Director</td>
<td>Haig Keshishian</td>
<td>640 KBT</td>
<td>432-3478</td>
<td>432-6161</td>
</tr>
<tr>
<td>Neurobiology</td>
<td>Michael Crair</td>
<td>B301D SHM</td>
<td>785-5768</td>
<td>785-5263</td>
</tr>
<tr>
<td>DGS Admissions Director</td>
<td>Charles Greer</td>
<td>FMB 412</td>
<td>785-4034</td>
<td>737-2159</td>
</tr>
<tr>
<td>Program Manager</td>
<td>Carol Russo</td>
<td>L200 SHM</td>
<td>785-5932</td>
<td>785-5971</td>
</tr>
<tr>
<td>Neuroscience Sr Admin</td>
<td>Lynne Baumgarten</td>
<td>C303 SHM</td>
<td>785-5429</td>
<td>785-5263</td>
</tr>
</tbody>
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UNIVERSITY OFFICES
Yale Graduate School  http://gsas.yale.edu/
1 Hillhouse Avenue, Warner House

Dean Lynn Cooley 432-2733
Assistant to Dean Susanne Olsen 432-2733
Associate Dean Richard Sleight 432-2744
Assistant Dean Robert Harper-Mangels 432-1884
Assistant to Dean Theresa Dio 432-2744

Financial Aid Office Jennifer Brinley 432-7980
gradfinaid@yale.edu
(loan applications; administration and payment of fellowships)

Information Office 432-2770
(general information; dissertation submission packets)

Registrar 246 Church St. 432-2336
(registration; course schedules; grades; petitions for Master’s Degrees; transcripts)
http://www.yale.edu/sfas/registrar/

University Registrar Gabriel Olszewski 246 Church St 436-0492
(applications for departmental transfer; leaves of absence, withdrawal)

McDougal Center Lisa Brandes 126 HGS 432-8895
(McDougal Fellows, Orientation, Commencement, etc.)
http://www.yale.edu/graduateschool/mcdougal/

BIOLOGICAL AND BIOMEDICAL SCIENCES
http://bbs.yale.edu/
Director Tony Koleske CE 31 SHM 785-5624 FAX 785-7979
Administrative Director John Alvaro L205 SHM 785-3735 FAX 785-3734

MEDICAL SCIENTIST TRAINING PROGRAM
http://medicine.yale.edu/mdphd/index.aspx
Director Barbara Kaczmierczak 317 ESH 785-4403 FAX 785-7446
Program Coordinator Cheryl DeFilippo 319 ESH 785-2103 FAX 785-6936
SPECIAL UNIVERSITY OFFICES

Campus Police  785-5555  
http://publicsafety.yale.edu/

Yale Shuttle Services  
http://to.yale.edu/shuttle

Student Life:  http://www.yale.edu/graduateschool/studentLife/indexhb.html

Graduate Housing:  http://www.yale.edu/gradhousing/

Yale Health Service (Information & Emergencies)  432-0123
55 Lock Street
http://yalehealth.yale.edu/
  Member Services  432-0246
  Pharmacy  432-0033
  Mental Hygiene  432-0290
  Infirmary  432-0001

International Center  442 Temple Street  432-6460

Office of International Students & Scholars  421 Temple Street  432-2305
http://www.oiss.yale.edu/

Office for Women in Medicine  L202 SHM  785-4860
http://medicine.yale.edu/owm/index.aspx

Cushing Medical Library  SHM  785-5354
http://library.medicine.yale.edu/

ITS Helpdesk  http://www.yale.edu/its/  432-9000

Yale Portal  yale.edu/portal

OTHER

Cold Spring Harbor Laboratory  (516) 367-8346
Cold Spring Harbor, NY  11724
http://www.cshl.org/

Marine Biological Laboratory  (508) 548-3705
Woods Hole, MA  02543
http://www.mbl.edu/

Society for Neuroscience  (202) 962-4000
1121 14th Street, NW
Suite 1010
Washington, DC 20005
http://www.sfn.org/
THE GRADUATE PROGRAM IN NEUROSCIENCE

Policy and Personnel

The Neuroscience Track is composed of the faculty and graduate programs of the Interdepartmental Neuroscience Program (INP) and the Department of Neuroscience. The Interdepartmental Neuroscience Program is overseen by two co-directors who represent the Biomedical Sciences from each end of the Yale campus. Haig Keshishian is located at 640 Kline Biology Tower and can be reached at 432-3478. Charles Greer is located at FMB 412 and can be reached at 785-4034. The Neurobiology graduate program is overseen by their DGS, Michael Crair, who is located in B301D in the Sterling Hall of Medicine and can be reached at 785-5768. The day-to-day functioning of the Neuroscience Track and the Interdepartmental Neuroscience Program is handled by Carol Russo, who is located at L200 Sterling Hall of Medicine. The Neuroscience office assistant Lynne Baumgarten is located in C303 SHM and can be reached at 785-5249. Educational policy for the Neuroscience Track and affiliated programs is decided upon and reviewed by the INP Executive Committee, the Neurobiology DGS, and the Graduate Student Affairs and Curriculum subcommittees of the respective programs.

Neuroscience Track Student Committees

Advisory Committee
Each entering student is assigned an advisory committee. This committee will be responsible for establishing the student’s course of study and for monitoring progress in the first 1-2 years. This committee will meet with the student in September and DGS Charles Greer will meet with each First Year student in January and June and at those times will provide each first year student with written evaluation summarizing their lab rotation and their academic standing.

Interdepartmental Neuroscience Program Student Committees

Qualifying Examination Committee
The qualifying exam committee will be comprised of 4 faculty members from 4 different areas of specialization from at least 2 different departments. Dr. Charles Greer or his representative will sit as a fifth, non-examining member of the committee (when not included in the original four faculty members), chairing each examination. This committee should be formed during the second year of study; the examination must be completed by June 1 of the second year.

Thesis Prospectus Committee
For students who have completed their Qualifying Exam and are engaged in full-time research, a thesis prospectus committee will be formed which will consist of the student’s thesis advisor and a minimum of 3 other ladder faculty members. At least two formal meetings shall occur with the student and the thesis committee. The prospectus committee will be selected by the student, but each committee must be approved by a Director of the Program.

M.D. /Ph.D. Students
Questions related to the M.D./Ph.D. Program should be addressed to the Director of the Medical Scientist Training Program (MSTP), Barbara Kaczmierczak (C317 ESH; 785-4403). However, all INP MD/PhD students must meet with DGS Charles Greer to assist them directly with their program of study.

Responsible Conduct in Science
All First Year Neuroscience Track students are required to take our Bioethics in Neuroscience course. The INP will provide copies of the required texts which are theirs to keep. Yale University believes that all individual research and research training should be conducted in a scientifically responsible and ethical manner. Yale’s Guidelines for the Responsible Conduct of Research set forth the responsibilities of the faculty together with specific comments regarding the management, date, authorship and the evaluation of the scholarly efforts and research. This guideline builds upon information provided in the Faculty Handbook and various University policy statements: Policy on Collaborative Research; Patient Policy; University Policy on
Academic Misconduct; and The University Policy on Conflict of Interest. It is Yale policy to encourage research and scholarly activities essential to the training of students, to the advancement of knowledge, and essential to the intellectual growth of the faculty. Yale expects that scholarly activities will be conducted with the highest ethical and professional standards. While professional standards may vary across fields, the University has developed a set of guiding principles and policies that are applicable to all research and scholarly activity at Yale. [http://www.yale.edu/provost/handbook/handbook_x_university_policies_concerni.html#T4](http://www.yale.edu/provost/handbook/handbook_x_university_policies_concerni.html#T4) Additional specific policy and procedure govern the use of animals in research, the involvement of human subjects and experimentation with radioisotopes and other hazardous materials. All students are expected to complete required training in the areas that affect their research as soon as possible after joining a lab for a rotation or for dissertation work.

All fourth year students are required to take B&BS 503 Responsible Conduct in Research Refresher for Senior BBS Students which includes a large BBS wide meeting and a Neuro-specific follow up meeting.

**CURRICULUM**

**Outline**
The first 3 to 4 semesters of graduate study are spent in formal course work, independent reading and laboratory rotations. Each student’s program of study is designed in consultation with an advisory committee of the Neuroscience Track. This program should both satisfy the INP and Neurobiology requirements and serve as a good background for the thesis research.

**Formal Courses**
Each student is expected to gain a broad base of knowledge in selected areas through elective courses in Neuroscience and other disciplines. A complete list of courses available can be found in the Graduate School Program and Policy Handbook, [http://www.yale.edu/bulletin/html/grad/introduction.html](http://www.yale.edu/bulletin/html/grad/introduction.html). Students are required to take four core courses and three elective and reading courses to be agreed upon by their advisory committee.
REQUIREMENTS FOR THE Ph.D. DEGREE

Courses
The Neuroscience Track requires that students complete the following four Neuroscience courses:

- Principles of Neuroscience (NSCI 501a)
- Structural and Functional Organization of the Human Nervous System (NSCI 510b)
- Neurobiology (NSCI 720a)
- Bioethics in Neuroscience (NSCI 580b)

Also required for first year Neuroscience Track students and second year INP and Neurobiology students:

- NSCI 512 a/b, Lab Rotation for First-Year Students
  Charles Greer
  Required for all first-year Neuroscience graduate students. Rotation period is one term. Both terms required. Grading is Sat/Unsat.

- NSCI 513 a/b, Second Year Thesis Research (for INP students)
  Faculty
  Required for all second-year INP graduate students. Both terms required. Grading is Sat/Unsat.

- NBIO 513 a/b, Second Year Thesis Research (for Neurobiology students)
  Faculty
  Required for all second-year Neurobiology graduate students. Both terms required. Grading is Sat/Unsat.

Students must complete three additional courses from the following list, or from other Graduate level course listings in related departments:

- Cell Biology of the Neuron (NSCI 502b)
- Seminar in Brain Development & Plasticity (NSCI 504b)
- Cellular and Molecular Mechanisms of Neurological Disease (NSCI 507b)
- Tutorial (NSCI 519a/b)
- Neuroimaging in Neuropsychiatry I: Imaging Methods (NSCI 521a/PHAR 521a)
- Neuroimaging in Neuropsychiatry II: Clinical Applications (NSCI 521b)
- Imaging Drugs in the Brain (NSCI 523a/ENAS 880a)
- Neurobiology of Cortical Systems (NSCI 532a/NBIO 532a)
- Function and Dysfunction of the Visual System (NSCI 533a)
- Seminars in Neuroscience (NSCI 540b)
- Fundamentals of Neuroimaging (NSCI 585b)
- Computational Modeling & Analysis in Neuroscience (NSCI 588a)
- Sensory Neuroethology: Bats, Owls, Electric Fish and Beyond (NSCI 590a)
- Seminar in Visuomotor Neurophysiology (NSCI 595a)
- Seminar in Neurophysiology of Decision Making (NSCI 596a/NBIO 596a)
- Neuroeconomics (NSCI 597b/NBIO 597b)
- Introduction to Systems Neuroscience (NSCI 611b/PSYC 611b)

Grades
At the completion of a course, students are normally assigned a grade of Honors, High Pass, Pass or Fail. Seminar or research courses are usually graded either Satisfactory or Unsatisfactory. The Graduate School requires that Ph.D. students obtain a minimum of two grades of Honors in regular term courses by the end of the second year of study. Courses graded Satisfactory/Unsatisfactory may not be used to fulfill the Honors requirement.

In total, students are required to complete seven (7) term courses by the end of their sixth (6th) semester in the program and are expected to receive a grade of Honors in at least two (2) of the three (3) primary core
neuroscience courses taken during the first year of enrollment. All students will be reviewed academically at the end of the year. If any fail to meet this standard, they will be put on academic probation with specific instructions on how to show appropriate academic improvement. Students must also maintain at least a High Pass or above average (for purposes of calculating this average, Honors=3, High Pass=2, Pass=1, and Fail=0). The High Pass average must also be met for all Neuroscience graduate courses, a grade of Pass is not acceptable. Additional degree requirements are successful completion of both terms of Lab Rotation for First-Year Students (NSCI 512a/b) and both terms of Second-Year Thesis Research (NSCI 513a/b). To remain in good standing throughout their time in the Ph.D. program, students are expected to actively participate in classes, seminars, journal clubs and lab meetings, to produce high quality written work, and demonstrate regular progress toward completion of the dissertation.

**Laboratory Rotations**
Laboratory rotations are an essential component to interdisciplinary training and each student is required to complete a minimum of two rotations by the end of second semester. The rotations must be in different laboratories and, preferably, in different areas of Neuroscience from at least two departments. At least one of these must be in the lab of an INP faculty member. The minimum duration of a rotation is one semester or a full summer. Each rotation should be long enough to allow the student to gain technical expertise and an appreciation of the practical aspects of an area of Neuroscience. The laboratory rotations can serve the dual functions of broadening a student’s background and helping in the choice of a future thesis advisor. Should a particular laboratory not meet the needs of a student, he/she is encouraged to consider moving to another lab. At the end of the rotation, the P.I. will complete the Rotation Evaluation form evaluating the participation of that student in the laboratory and they will submit this to the Neuroscience office.

**The Qualifying Examination**
A primary objective of an interdisciplinary program is training well-rounded students. The qualifying examination is viewed as one means of obtaining that goal. The Graduate School requires that “A general oral or written qualifying examination, separate from course examinations must be passed by the student in the major subject offered and such subordinate subjects as may be required by the department concerned”. The INP and Neurobiology qualifying examinations involve directed reading with faculty and a written and an oral component. The Qualifying Examination must be completed by June 1 of the fourth (4th) term of enrollment.

A unanimous Pass vote from the Qualifying Examination committee is required. Students who do not pass the Qualifying Examination will be put on academic probation and will be required to either re-take parts of the qualifier and/or complete additional coursework. They will receive a letter from the DGS explaining why their performance was marginal and that they may be dismissed from the graduate program if they do not show improvement within one semester. Areas of weakness will be outlined as well as specific guidelines as to how they can demonstrate improvement. Proof of timely continual academic progress will be required.

**Thesis Prospectus**
The Graduate School requires that all students submit a brief outline of proposed thesis work before beginning the seventh semester. The Prospectus must be accepted and all requirements for Admission to Candidacy must be completed by May 31 of the sixth term of enrollment. Students who do not meet this deadline will be required to petition the Graduate School for permission to register for the following semester and will be placed on academic probation until these requirements have been met.

The prospectus should consist of a written summary of research accomplished and planned, together with a tentative title for the thesis. This must be approved by the student's Thesis Prospectus Committee and accepted by the Director of Graduate Studies. The prospectus must be submitted at least 6 months before submitting the final dissertation.

**Admission to Candidacy**
Students who have satisfied their Program’s course requirements, laboratory rotations, the Graduate School Honors requirement, have successfully completed the qualifying exam, and have an approved prospectus will be formally admitted to Candidacy for the Ph.D. degree. The Graduate School requires that this be completed before the beginning of the seventh semester.
Thesis Defense
All INP students are required to present a public seminar of their thesis research. This seminar is to be immediately followed by a closed oral defense of the student’s thesis research with their committee.

All Neurobiology students are required to have a closed oral defense with the student’s thesis research committee. If the committee finds the dissertation acceptable, the student then must present a public seminar of their thesis research within one week of the committee meeting.

Masters Degrees
Although the Neuroscience Track does not admit students for a terminal master’s degree, the rules of the Graduate School provide for the optional awarding of a Master of Philosophy degree. The minimum general requirements for this degree are that a student shall have completed all requirements for the Ph.D. except the prospectus and dissertation. The terminal M.S. is awarded only to students who are not continuing for the Ph.D. degree and have successfully completed our equivalent of 30 credit hours in the doctoral program. This includes a passing grade in the four required courses plus two elective courses, a minimum of 2 Honors grades, and successful completion of both First Year laboratory rotations (NSCI 512 a/b) and both semesters of Second Year Thesis Research (NSCI 513a/b). Students are not admitted for this degree.

Students should petition for these degrees by the October deadline for a December award and the March deadline for a May award. The petition form can be downloaded The Academic Calendar can be found here: http://www.yale.edu/graduateschool/academics/calendarProvisional.html

Publications
The Graduate School requires that publications based upon the dissertation results should include a statement to that effect. For example, the author should state that the paper is based upon:

“a dissertation submitted to fulfill in part the requirements for the Degree of Doctor of Philosophy at Yale University”.

National funding agencies also require the following statement to be included:

“This investigation was supported by National Research Service Award #______, from the National Institute of _______ _______”.

Other funding which the student has received (i.e. Howard Hughes, NSF, etc.) should be similarly acknowledged.

Residence Requirement
The minimal residence requirement for the graduate school is three years; the maximum period of enrollment for the Ph.D. degree is normally six years. Students who have formally transferred credit for graduate work completed at another institution may reduce the minimum residence requirement by special petition. The maximum time may also be extended by special petition, but only if all requirements for the Ph.D. except for the completion of research and submission of the dissertation have been fulfilled. If you must petition for Extended Registration, please do so in a timely fashion.

Teaching Requirement
Neuroscience students have a two semester TA requirement. This policy will address how and when these requirements will best be met.

First-year students may not TA without written permission from the DGS. One semester of teaching must be completed by the end of the third year. It is strongly recommended that both requirements be completed by the end of the third year as students are increasingly focused on full-time laboratory work and find it difficult to fit in TA responsibilities at this point. If this requirement is not met by the end of the third year, a written petition must be made to the Director of the Program and must include information on how and when the requirement will be met.
Specifically, the first requirement must be met by teaching in a core Neuroscience course. These are: Principles of Neuroscience (NSCI 501a - TAs selected by course instructors), Neurobiology (NSCI 720a), Bioethics in Neuroscience (TA selected by current course TA), Structural and Functional Organization of the Human Nervous System (NSCI 510b - TAs selected by Mike Schwartz upon application directly to him), and Amy Arnsten’s undergraduate course Brain and Thought (Cog Sci 201a - TAs selected by Amy Arnsten upon application directly to her). The second course may be chosen from the list of neuroscience courses listed in the Graduate School of Arts and Sciences Programs & Policies Handbook. If not from that list of courses, the course must have approval of the DGS. Students selected for a TA position in the Ethics course should note that two years of teaching in this course is required for it to be counted as fulfilling one TA requirement.

**Evaluation**
As each requirement is fulfilled, the student will receive formal evaluation of progress. First year students will receive summaries of rotation and academic standing evaluations, second year students will receive a written summary of the Qualifying Examination performance, which will include their current academic standing. Third year students and beyond will receive written feedback on the prospectus and subsequent thesis committee meetings, to be written by the committee chair, with copies to the committee members and the INP or Neurobiology office. Each student’s file will be reviewed annually by the appropriate program committee.
INP DEPARTMENTAL REQUIREMENTS FOR MD-PhD STUDENTS

Course Requirements:
Three courses are required, and students must obtain a grade of Honors in two of these courses. This must be completed by the end of the second year of full time graduate work. Required courses are Principles of Neuroscience (Neuroscience 501a) and Structural and Functional Analysis of the Human Nervous System (Neurobiology 500b). One more elective graduate level course is required. Graduate courses taken during the first two years of medical school will count towards the student's elective requirement in the INP, provided the student has registered to receive a graduate grade in the course. Examples are CBIO 601 and MB&B 800a. In the case of students accepted into the MD-PhD Program during their first year of medical school, a letter from the faculty member in charge of the first-year course indicating the grade achieved in the course is required and an official transcript from the Medical School must be submitted to the Graduate School. The INP also requires affiliated MD/PhD students to register for NSCI 513 a/b Second-Year Thesis Research in the first two semesters of affiliation with the graduate program.

Laboratory Rotations:
2 rotations are required; rotations in another department/program will count towards this requirement upon approval of the INP Director of Graduate Studies.

Teaching Requirements:
MD/PhD students are required to TA one term, two terms are preferred. Previous teaching (as TA) in the histology labs or courses in MCDB does count toward this requirement as long as the student has taught while enrolled at Yale as an MD/PhD student.

Qualifying Exam:
MD/PhD students must complete their qualifying exam before the end of their first year as an affiliated graduate student. Thus, if the student affiliates at year 3.5 (beginning of the Spring semester of the third year of matriculation at Yale), they must complete the examination before registering for the Spring semester of the fourth year at Yale.

Prospectus:
MD/PhD students must complete and submit their thesis prospectus by the end of the second year as an affiliated graduate student. Thus, if the student affiliates at year 3.5, they must submit the approved prospectus before registering for the Spring semester of the fifth year (at the beginning of year 3 as an affiliated graduate student).

Please note that every thesis prospectus MUST be approved by the thesis committee.

Admission to Candidacy:
MD/PhD students are required to have been admitted to candidacy by the end of the second year as an affiliated graduate student. Generally, the submission of the thesis prospectus is the final requirement for admission to candidacy and paperwork for both is submitted to the Graduate School at the same time.

Other requirements:
All graduate students who are admitted to candidacy are required to have an annual thesis committee meeting. All graduate students are required to give a student research presentation annually and are expected to attend rotation/student research talks as well as INP-sponsored journal clubs.

Affiliation requirement: A copy of the student’s application to the MD/PhD program, a copy of the student’s current transcript and notation of rotations completed must be submitted to the INP office. The DGS must have this information in hand before the official MD/PhD student affiliation form can be approved.

Timeline:
Year One: MD/PhD students complete courses in the Medical School and register for selected courses in the Graduate School. Most who identify Neuroscience as their probable PhD field will take the required course, Principles of Neuroscience, in the fall semester. This is the recommended timing. MD/PhD students should take Neurobiology 500b in the spring for graduate school credit/grade. Other electives as listed above may be taken for graduate school credit to fulfill our requirement and indeed it is recommended that this be done. Two laboratory rotations should be completed in the summer. The DGS and the Neuroscience Office may be of assistance in identifying appropriate laboratories based in the student’s interests.

Year Two: Courses in the Medical School are typically taken. Part 1 of the Boards is taken.

Year Three: By September of the third year, a thesis lab should be identified and all paperwork should be completed (affiliation form completed and copy of student’s academic record including application transferred to Neuroscience Office). Student’s stipend is supplemented by PI/PI’s primary department at time of affiliation. Qualifying Examination must be completed within one year of laboratory/program affiliation. This is a graduate school rule and graduate school registration for the following semester may be held up if this requirement is not fulfilled in a timely manner. Typically this will be fulfilled before the Fall Semester of the Fourth year.

Year Four: The Thesis Prospectus must be approved and submitted to the Graduate School by the end of the second year of laboratory/PI affiliation. Typically, this is by the end of the Spring Semester of Year Four. Registration for the following semester may be held up if this requirement is not fulfilled in a timely manner. The Thesis Committee approves the prospectus and required paperwork is then delivered to the INP office by the student. The INP office will then complete the Admission to Candidacy paperwork and submit it to the Graduate School. The Prospectus must be submitted to the Graduate School at least six months before the dissertation is submitted.

Year Five: Typically an MD/PhD student will complete and defend their dissertation at the end of the third year in the dissertation lab. We require that MD/PhD students defend their dissertations before returning to fulfill the remaining Medical School requirements.

Year Six and Seven: Student completes all remaining requirements and graduates in May.

While this is considered a guideline for a typical MD/PhD student, we recognize that not every student will follow this path. Any digression from this timeline must be discussed and approved by the DGS, with appropriate notes to the student’s file and copies to the MD/PhD office. Continued participation in the INP is subject to the satisfactory completion of requirements in a timely fashion and if any question arises about the satisfactory progress of a student and the qualifying examination committee or the thesis committee cannot agree on an appropriate resolution, then the INP Executive Committee will have the authority of the INP faculty to determine a course of action.
PROCEDURES FOR THE QUALIFYING EXAMINATION,
THESIS PROSPECTUS AND DISSERTATION

Qualifying Examination

INP
During the second year, each student will choose a qualifying examination committee, which is to be comprised of four faculty members from at least two different departments representing four different areas of specialization. The student’s advisor may not be a reader on the Qualifying Exam Committee without the written permission of the DGS. Dr. Charles Greer or his representative will chair each committee. He may also act as both a reader and chair.

Each of the four faculty members, in discussion with the student, will select ten - fifteen important papers from their field of specialization that the student will read, study and discuss with the faculty member. It is recommended that the student meet on a regular basis with each faculty member to discuss the assigned papers over a six week period. A typical scenario would involve a minimum of four to six sessions with each faculty advisor.

No later than three months after receiving the papers, each committee member will prepare two essay questions based upon the readings. These eight questions will be presented to the student, who will select three questions representing three different areas of specialization. After the list of eight questions has been presented to the student, the student will have forty-eight hours to answer the questions. Library and literature resources will be available and the student may complete the exam in the location of their choice. Any one of the answers should not exceed the equivalent of three type-written pages single-spaced; references may be included at the discretion of the student or at the request of the faculty. The complete assigned reading list should be submitted with the final written examination.

No later than one week after the written exam is completed, an oral examination focusing on the readings will be held with the student and the members of the committee.

As described above, the Qualifying Examination has three parts, all of which are evaluated. The student’s performance in meetings and discussions with faculty committee members, the written examination, and the oral examination are assessed when the committee members are all present for the oral examination. Second year students will receive a written summary of the Qualifying Examination performance, which will include their current academic standing.

The qualifying examination must be completed by June 1 of the second year. Exemption from this deadline requires the approval of the INP Director of Graduate Studies. A unanimous Pass vote from the Qualifying Examination committee is required. Students who do not pass the Qualifying Examination will be put on academic probation and will be required to either re-take parts of the qualifier and/or complete additional coursework. At the discretion of the committee, the student may be offered a second full attempt at the Exam. If so, then a new committee will be formed by the Director of the Program. They will receive a letter from the DGS explaining why their performance was marginal and that they may be dismissed from the graduate program if they do not show improvement within one semester. Areas of weakness will be outlined as well as specific guidelines as to how they can demonstrate improvement. Proof of timely continual academic progress will be required.

Neurobiology
Students in Neurobiology are expected to take their Qualifying Examination by the end of the second year. The student chooses 4 faculty members - 2 related to molecular/cellular neuroscience and 2 related to systems/integrative neuroscience - to perform directed readings. The student and faculty member should choose 15-25 papers on a defined research topic. Ideally, the student should meet weekly for 4 - 8 weeks with the faculty member to discuss the papers in detail. Research advisors should be aware of the great commitment expected during the qualifying examination and permit students to greatly reduce their time in the laboratory during the preparation process. The qualifying Examination has 2 parts: a written and oral exam. The written exam is carried out over 2 days. The student is given 2-3 questions on each research topic; the
student chooses one question per topic and has 3 hours to respond to each question. The written exam is open book. The written responses are distributed to the faculty members and read prior to the oral exam, which occurs within 1 week of the written exam. At the student’s option, 1-4 additional faculty members can be asked to attend the oral exam as "readers"; they will read the answers and participate in the oral exam. The Director of Graduate Studies for Neurobiology is also in attendance at the oral exam. The oral exam usually lasts about 2 hours, and is used to fortify or elaborate on the written exam. Students who perform exceptionally well on the Qualifying Exam can pass "with Distinction". Students who fail the exam are allowed to take it over one more time; if this performance is not satisfactory students are required to leave the program with an M.S. degree.

**Thesis Prospectus - INP and Neurobiology**

Prior to the writing of the thesis, the student will attend at least 2 formal meetings with the thesis advisor and a committee of a minimum of 3 additional ladder faculty members. At the first meeting (presentation of the Prospectus) the committee members should select a member of the committee who is NOT the advisor to chair the committee. Two weeks prior to the first meeting the student will distribute a short document of no more than 6-10 pages which includes a title for the project, a brief introduction to the problem(s) being studied, the techniques being employed and a short discussion of potential outcomes and/or pitfalls. This document should be modeled on the NIH NRSA Predoctoral fellowship guidelines and eligible students are encouraged to submit the final document for consideration by NIH. The first meeting of the thesis committee must occur prior to the end of the third year. It is strongly recommended that this meeting occur early in the third year as to gain the maximum benefit from the committee members in the design of the thesis project. The student will make a concise presentation to the committee and then this meeting should address the strengths and weaknesses of the proposed research. The thesis prospectus must be approved by the committee and the Program Director and submitted to the Graduate School by May 31 in partial completion of the requirements for admission to candidacy for the Ph.D. degree. The student must be admitted to candidacy to be eligible to register for the seventh semester. The second and all subsequent committee meetings will take the form of an interim progress report before which the student sends a short (no more than two pages) progress report to the committee. At the committee meeting the student makes a presentation of progress to date and the committee discusses the progress and/or problems relevant to the thesis. These meetings should last no more than one hour. The chair of the committee will write a summary of the meeting using the form available from the INP which will be copied to the committee members, including the student. A copy must also go to the INP or Neuroscience office. Students are required to meet with their committees at least once a year, more often if necessary. Annual registration with the Graduate School is dependent on fulfillment of this requirement.

It is expected that the thesis prospectus committee will also serve as the final thesis defense committee. Changes in a student’s thesis committee require approval of a Director of Graduate Studies. It is expected that the student will be in continual communication with the thesis committee during completion of the research and preparation of the written document and, again, at minimum, formal committee meetings must take place annually, with documentation of completion to be forwarded to the Neuroscience or Neuroscience offices.

**Dissertation and Defense**

**INP**

During the final stages of thesis research, the student should maintain especially close communication with the thesis advisor and committee in order to most effectively establish the content and composition of the dissertation. As the dissertation nears completion to the satisfaction of the thesis committee, a date for the defense should be scheduled by the student and the committee in consultation with the INP office. No later than two weeks before the defense is to take place, the "final" draft of the dissertation shall be distributed to the committee members. The thesis committee will consist of 4 members, including the thesis advisor and 3 additional faculty members from at least two different departments. An outside reader (outside the University) is optional and is not required by the Graduate School or the INP. The thesis advisor may be an active participant during the defense and may ask questions or reformulate questions asked by other members of the committee or may act as an advocate on behalf of the student. The thesis advisor will remain present during the committee deliberations at the conclusion of the thesis defense.
The thesis defense consists of two parts: 1) An open seminar to which all members of the academic community will be invited; and 2) An oral defense of the thesis, which will include only the student and the thesis committee. The oral defense should not exceed two hours. When the defense has been completed, the student will leave the room and the committee will discuss acceptance of the thesis (with or without revisions) or remand it to the student for further work. Once all changes have been made to the satisfaction of the committee, each committee member will submit a written report and recommendations to the Graduate School and the Directors, who will approve the award of the Ph.D.

Neurobiology
The Dissertation and Defense in Neurobiology are similar to that in the INP, with the exception that the oral defense of the thesis with the thesis committee occurs prior to the open seminar. The public seminar is only given if the thesis committee has approved the dissertation, and should occur within one week of the committee's approval.

Dissertation Submission
The student must inform the INP or Department of Neuroscience of his/her intent to petition for the Ph.D. degree (by the March deadline for a May award; October deadline for a December award) after the thesis has been successfully defended. The Dissertation Submission Packet from the Graduate School's website (http://www.yale.edu/graduateschool/home/forms.html) should be carefully reviewed and all steps followed. The packet includes formatting requirements for the dissertation.
REGISTRATION

General Information
All students in residence or in absentia are required to register with the Graduate School. Failure to do so will result in ineligibility to use University facilities, including the Libraries and the Health Services.

Students are normally given the first 10 days of classes to register (see the Academic Calendar for dates http://www.yale.edu/graduateschool/academics/calendar-2015-2016.html). You will receive notification of the Online Course Selection deadline each semester. All students must complete the Online Course Selection. Online Course Selection and Instructions for same are found here: http://www.yale.edu/sfas/registrar/

Foreign Student Registration
Foreign students must register at the Office of International Students and Scholars (421 Temple St.) before registering with the Graduate School. Foreign students are strongly encouraged to use this office as a resource for any problems related to their foreign-student status.

In Absentia Registration
Students whose circumstances require full-time study at another institution, or dissertation research on a full-time basis outside the New Haven area can register in absentia provided he/she receives prior written approval of the Program Directors and the Dean of the Graduate School. Students who register in absentia do not qualify for Yale Health Plan services unless they are paying full tuition, but may enroll themselves and their dependents at full cost.

Leave of Absence
A student in good standing who wishes to interrupt his/her study temporarily for personal reasons (i.e. maternity leave, financial necessity, health problems or other extenuating personal circumstances) may, with approval of the Directors and the Dean, be granted a leave of absence of up to one year for students who have successfully completed one year of study and two years for students who have been admitted to candidacy for the Ph.D. degree. Students on leave may not engage in full-time degree-related activities during the period of leave. However, students may participate in full-time teaching or other full-time employment or pursue training for a special skill while on leave of absence. Students on leave of absence need not apply for readmission before returning to Yale. However, to be considered for financial aid in the year following a leave of absence, students must submit a formal application to the Program by February 1 of the year preceding return. Students on leave will not be enrolled in the Yale Health Plan but may continue membership by paying full fees.

Tuition
Full tuition is charged to all Ph.D. students for 8 semesters, except in the case of students who have completed all degree requirements (including submission of the dissertation) in less than four continuous years from the date of entry into the Ph.D. program. After eight semesters, the student must continue registering until the dissertation is submitted or the terminal date is passed.

Tuition charges for students who are considering leaves of absence or registration in absentia should be arranged in consultation with the Graduate School.

FINANCIAL AID

Sources of Support
For the 2015-2016 year, all students will receive tuition plus a stipend of $33,700 (12 months). The most common sources of support are:

1. U.S.P.H.S. National Research Service Awards: Each year, the National Institute of Health (NIH) provides Yale with funds for graduate student tuition and stipends. The Graduate School and/or the Medical School
provides students with a stipend supplement. These awards are available for a maximum of 5 years. There is no "Payback" obligation for pre-doctorial support.

2. External Fellowships: Several external fellowships which are administered by federal or private sources are also available to graduate students in Biomedical Sciences. A list of these awards is available on the INP website or with the Assistant Dean of Biomedical Sciences. Students are encouraged to refer to this list regularly to determine required qualifications and application deadlines. The INP and Neurobiology programs strongly encourage students to apply for any outside fellowships, and in particular those awarded by the National Science Foundation, the Department of Defense and the Homeland Security Office. More senior students are encouraged to submit Predoctoral NRSA applications. Most applications are now completely online and links are available on the INP website.

Fellowship activation
Students who are awarded NSFs and other outside fellowships (exclusive of NRSAs) may activate these awards only as of September 1. All Fellowship Activation dates must be discussed with the INP office prior to submission.

3. University Fellowships: These fellowships are awarded by the Graduate School and/or the Medical School.

4. Research Assistantships: Research grants and contracts awarded by outside agencies to support the research projects of individual faculty members may provide funds for Research Assistantships for graduate students. These appointments are decided by faculty negotiation. In most cases, these appointments are given to senior students who are engaged in full-time dissertation research in the laboratory of the P.I. granting the funds.

Pay Periods
The Graduate and Professional student payroll runs on a semi-monthly schedule of payments (the 15th and last business day of each month). Instructions to set up Direct Deposit and for using all of the features of the “My Pay and Info” site are available at: http://www.yale.edu/hronline/mypay/

Loans
For information on the various types of graduate student loans, consult the Financial Aid Office.

Travel Money
First-year Track and second-year INP students are provided with $800 in travel funds for use towards one scientific meeting per year. See the INP Office to make arrangements for this. Students are expected to attend the Society for Neuroscience annual meeting in the fall.
LECTURES, SEMINARS AND JOURNAL CLUBS

Yale graduate students in the Biomedical Sciences have access to a large number of relevant research seminars, journal clubs, retreats and symposia. The programs of the Neuroscience Track sponsor the following events, which students are expected to attend:

Seminar Series
The INP seminar series provides an opportunity for students and post-docs in the neuroscience community at Yale to interact on a one-to-one basis with visiting neuroscientists in an informal setting. The seminars are held monthly on the second Tuesday of the month September through June in the Medical School. Neuro students select the speakers, drawing from the fields of cellular and molecular neurobiology, neurophysiology, developmental neurobiology, and systems/computational neuroscience, and make the invitations themselves. A student host coordinates lunch and dinner with interested graduate students and the speaker. Following each seminar, graduate students are invited to have dinner with the speaker. Contact the INP office for additional information. Announcements are sent each month.

The Department of Neuroscience series is usually held monthly on Thursdays at noon in SHM I304. Neurobiology students and postdocs invite speakers from a variety of disciplines. Students and postdocs are invited to have lunch with the speaker after the seminar. Each speaker is assigned a student or postdoc host, who may also join the speaker for dinner.

Journal Clubs
The INP student-directed journal club brings together graduate students in the neurosciences to discuss current papers in the field. Members meet on a biweekly basis and take turns in leading the discussions. The Journal Club is an excellent opportunity to practice presenting papers in a congenial and collegial atmosphere, to keep apprised of neuroscience research and to maintain contact with fellow students, events and research within the expansive Yale neuroscience community. Anyone with an interest in neuroscience is invited, but members are encouraged to attend regularly. Announcements are sent for each scheduled date. The paper to be presented is always available via email announcement prior to the Journal Club.

Club Neurobiology is sponsored by the Department of Neuroscience and is intended to serve as an informal forum for members of the Neuroscience community to interact. Seminars are typically presented by post-doctoral fellows from Neuroscience labs, new faculty at Yale or established faculty with new and exciting results ready for open discussion. Club Neurobiology is scheduled the first Tuesday of each month, throughout the academic year. This seminar series is held in BCMM 206/208.

Graduate Student Research Talks
To maintain regular interactions among the student body, INP students participate in a regular “In Progress” seminar series. At these seminars, students make short presentations of research-in-progress to Neuroscience students and faculty. This gives graduate students a unique opportunity to have their work evaluated by their peers and faculty.

Second year students coordinate the scheduling of this series and are in charge.

Guidelines for these presentations are as follows:

- Talks should consist of a clear and well organized presentation of the background and rationale for the research, and the recent findings. Plan a ten (1st and 2nd years), fifteen (3rd and 4th) or twenty-five (5th +) minute talk and allow a further five minutes for discussion, which may occur at any time during the talk or after.

- Begin your talk by introducing yourself and announce in whose lab you are working. For clarity, you should make sure that the first few slides give adequate background for your presentation. Your audience is quite diverse. After giving the background, go through your data, presenting it in as clear a fashion as possible.
Pay attention to the order in which you present your information and to the manner in which your data slides are set up. Make sure you arrange the data in a fashion that is logical and easy to interpret. This will avoid confusion and save time. End by clearly stating your conclusions. Practicing your talk in front of a mentor, members of your lab, and/or a few friends is a good idea.

- First and second year students are often nervous about giving these seminars because they feel they do not have sufficient data. This should not be a concern. Use the opportunity to practice presenting. These talks should be no more than 10 minutes.

- More senior students should focus on the more recent experiments. Do not try to gloss over problem areas. Remember that a primary function of these seminars is to get feedback from your colleagues. Someone in the audience may have an idea which could help, and you should encourage such ideas to come out. These talks should be fifteen or twenty-five minutes long, as indicated above.

**Other opportunities to present**

Neurobiology students have the chance to present their thesis research as an informal seminar to the other students and faculty. Seminars usually occur monthly at noon over coffee and pastry. The seminar series is an excellent opportunity to learn about public speaking in a friendly environment.

**Annual Interdepartmental Neuroscience Program NeuroDay**

This annual event is open to all members of the Yale Neuroscience community. It features seminars by faculty, students and postdocs. There is also ample time for informal discussion to enable attendees to become acquainted with current Neuroscience research on the Yale campus as well as opportunities to interact with students, postdoctoral fellows and faculty from all areas of neuroscience at Yale.

**Other Seminar Series of Interest**

<table>
<thead>
<tr>
<th>Department</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Psychiatry (BSTP)</td>
<td>Monday</td>
<td>3:45 pm</td>
<td>133 CMHC</td>
</tr>
<tr>
<td>John B. Pierce Seminar</td>
<td>Monday</td>
<td>12:00 pm</td>
<td>JBPierce Lib.</td>
</tr>
<tr>
<td>Child Study Center Grand Rounds</td>
<td>Tuesday</td>
<td>1:00 pm</td>
<td>Cohen Aud</td>
</tr>
<tr>
<td>Clinical Neuroscience Grand Rounds</td>
<td>Wednesday</td>
<td>8:00 am</td>
<td>Brady Aud</td>
</tr>
<tr>
<td>Biology Department Seminar</td>
<td>Wednesday</td>
<td>4:30 pm</td>
<td>202 OML</td>
</tr>
<tr>
<td>Cellular &amp; Molecular Physiology Seminar</td>
<td>Thursday</td>
<td>4:00</td>
<td>B147 SHM</td>
</tr>
<tr>
<td>Molecular Biophysics and Biochem. Seminar</td>
<td>Wednesday</td>
<td>4:00</td>
<td>OML/BASS/Hope</td>
</tr>
<tr>
<td>Neuroscience</td>
<td>Thursday</td>
<td>12:00 pm</td>
<td>I304 SHM</td>
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<tr>
<td>Pharmacology Seminar</td>
<td>Thursday</td>
<td>12:30</td>
<td>Giarman Room</td>
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<tr>
<td>Psychiatry Grand Rounds</td>
<td>Friday</td>
<td>10:15 am</td>
<td>CMHC Aud.</td>
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**OFF-CAMPUS NEUROSCIENCE COURSES**

Neuroscience students are encouraged to take advantage of the several Neuroscience Summer and Short Courses which are offered in various regions. First and second year students must have permission from a Neuroscience Program Director to apply for these courses. Although many summer courses are offered internationally, those offered by the Marine Biological Laboratory (Woods Hole, MA) and Cold Spring Harbor Laboratory (Cold Spring Harbor, NY) are among the very best. Course listings can be found on the home pages of these institutions.

Marine Biological Laboratory, Woods Hole, MA
(508) 289-7401, admissions@mbl.edu, http://www.mbl.edu

Cold Spring Harbor, Cold Spring Harbor, NY
(516) 367-8345, meetings@cshl.org, http://www.cshl.org/
Libraries
The main Yale campus libraries of interest to Biomedical students are:

1) The Medical Library (SHM) Hours: M-Th 8:00 am-midnight; F 8:00 am-10:00 pm; Sat 10:00 am-10:00 pm; Sun 9:30 am-midnight. http://library.medicine.yale.edu/

2) The Center for Science and Social Science Information (Kline Biology Tower) Hours: M-Th 8:30 am-7:45 pm; F 8:30 am-4:45 pm; Sat10:00 am-6:45 pm; Sun noon-7:45 pm. http://csssi.yale.edu/

Both of these libraries have access to Interlibrary Loans, and can obtain periodicals and papers from other libraries across the United States. Rare books from Yale Libraries are stored in the Seeley Mudd Library (38 Mansfield St.; 432-3203). Books can be delivered by courier to other libraries on request.

The McDougall Graduate Student Center
McDougall Center- Hall of Graduate Studies (HGS), 320 York Street, 432-8273, mcdougall.center@yale.edu, http://www.yale.edu/graduateschool/mcdougal/index.html At Yale, there is no general campus center, student union, or student center for the entire University community. For graduate students, much of student life is based in their respective departments and schools, and dormitories or apartment complexes. The McDougall Center is a place where graduate students from across the campus regularly meet and share interests.

Mission- A generous gift from Mr. Alfred McDougall, a Yale alumnus, and his wife, Ms. Nancy Lauter, enabled Yale in 1997 to create the McDougall Graduate Student Center. The McDougall Center provides space and program funding for building intellectual, cultural, and social life, and for facilitating professional development activities across the departments of the Graduate School of Arts and Sciences. The McDougall Center warmly welcomes the participation of students from other Yale Graduate and Professional Schools, postdoctoral fellows, faculty, staff, alumni/ae of the Graduate School, and members of the larger Yale community. Its web site provides all kinds of information relating to graduate student life. The Center provides members of the graduate student community with a place of their own on campus.

Facilities-The facilities of the McDougall Center enhance student life in many ways. The magnificently restored Common Room has been transformed into a lounge with comfortable furnishings, internet ports, newspapers and magazines, and a student-run cafe serving coffee and light food throughout the day. In an adjacent wing on the first floor of HGS the Center has a large multi-purpose Program Room (HGS 119) with a stage, seating for up to 100, and advanced video and sound projection equipment. The Program Room provides space for lectures, conferences, performances, film series, workshops and other events by and for students. The Center also has smaller conference and meeting rooms. Graduate student groups and departments may request to reserve space by contacting the center office at 432-8273, stopping by HGS 123, or filling out a request on line at www.yale.edu/mcdougall/mcdougal/roomform.htm. There is a public computer cluster supported by ACS, a public copy machine, a public phone, bulletin boards and information kiosks as well. The lower floor also offers offices for the Assembly of Graduate Students, graduate student organizations, rooms for Teaching Fellows to meet with students, lockers for graduate student use and vending machines. The McDougall Center is open days, evenings, and weekends.

Student Life Programs - Lisa Brandes, Director, 123 HGS, 432-8273. The Center offers a variety of activities open to the G&P community. These include weekly movies on the Really Big Screen, coffeehouse musical evenings, happy hours, poetry readings, student research presentations, health and wellness workshops, teas with campus and community figures, and service opportunities such as blood drives. It hosts activities organized by student groups and departments, including cultural festivals, movies, lectures, receptions, and conferences. Activities are publicized in campus publications, in McDougall Notes calendar, on the web site, and via email lists.

Graduate Career Services (GCS) -122 HGS, 432-2583, http://www.yale.edu/graduateschool/careers/index.html Graduate Career Services (GCS) is a career center for students and alumni/ae of Yale University's Graduate
School of Arts and Sciences. Through individual advising, programs and a library of resource materials as well as internet resources, the office assists graduate students and alumni/ae with career planning and decision-making. GCS consults with directors of graduate studies to develop programs that supplement the department’s role in the professional development of students pursuing an academic career. For graduate students considering careers beyond academia, GCS initiates programs and develops links with employers who seek the skills of our students and alumni/ae.

Yale Teaching Center -120 HGS, 432-2583 [http://www.yale.edu/graduateschool/teaching/index.html](http://www.yale.edu/graduateschool/teaching/index.html)
The Graduate Teaching Center (GTC) provides a wide array of teaching enhancement services, from individual consultations to University-wide events like “Teaching at Yale” Days and the Spring Teaching Forum and Innovation Fair. GTC courses and workshops combine peer-led discussions of teaching experiences with the introduction of expert teaching methods in all aspects of pedagogy. GTC also works with academic departments and programs to help their graduate students succeed in the classroom.

**Graduate Student Organizations**

*The Graduate Student Assembly* ([http://gsa.yale.edu/](http://gsa.yale.edu/)) The Graduate Student Assembly (GSA) is the elected body of Yale students in the Graduate School of Arts and Sciences. The Assembly's goals are to:

- identify the needs and concerns of graduate students, consider possible solutions, and present these to the Dean and other administrators.
- discuss and advise on changes to Graduate School policy proposed by the administration.
- provide a means for communication and deliberation both among graduate students and between grad students and other members of the university community.

**Meetings**
The Graduate Student Assembly meets every other Wednesday in the Hall of Graduate Studies (HGS) room 119 at 7pm. Meetings are open to all Graduate Students.

**Conference Travel Fund**
The Conference Travel Fund aims to support the professional development of graduate students by providing financial assistance to present papers and posters at conferences on a competitive basis. Conference funds are disbursed three times per year with application deadlines on October 15th, February 15th and May 1st.

*The Graduate-Professional Student Senate* (GPSS) is a university-wide organization representing the interests of all graduate and professional students and provides a means of voicing concerns to the University administration as well as to the various departments and schools. [http://gpss.yale.edu/](http://gpss.yale.edu/)

The [Graduate and Professional Student Center at Yale](http://gpscy.net/gpscy/) (GPSCY) provides a central meeting place for graduate and professional students, faculty and alumni. Open only to members and their guests, the GPSCY operates a full service bar with reduced prices, sponsors receptions, dances and parties and hosts conferences, rehearsals and exhibitions. [http://gpscy.net/gpscy/](http://gpscy.net/gpscy/)

There are many other formal student organizations at Yale, covering a broad spectrum of interests and activities including an active graduate-professional intramural sports league.

**Grievance Procedures**
For students who feel they have been treated unfairly in some capacity by an individual or group within the University, several courses of action are available. First, the advice of the thesis advisor, the Graduate Student Affairs Committee or either of the Program Co-Directors may be sought. Alternatively, if the matter is one which is not appropriate to raise within the Program administrative structure, other University agencies may be contacted, which include: 1) The Dean of the Graduate School; or 2) The Deputy Provost (Stephanie Spangler), whose office is especially concerned with matters relating to equal rights for minorities and for
women. The Office for Women in Medicine can also be contacted. It is located in L202 SHM; 785-4680. In addition, the Dean of Graduate Studies has appointed a standing Grievance Committee to receive and review student complaints of sexual harassment. This Committee is comprised of six members (2 faculty; one member of the Graduate School Administration; two students; and one counselor). Students may bring questions about procedure, seek informal advice, or present a complaint to any member of the board, either orally or in writing.

Yale Health Plan
The Yale Health Plan (http://yalehealth.yale.edu/) is a comprehensive health care program, located at the University Health Care Services Center (55 Lock Street) which is available to all faculty, students and staff. All Yale students who are enrolled in graduate study at least half-time are automatically members of the YHP and are eligible for ambulatory care services and the use of the infirmary at no additional cost. Yale requires that students have hospitalization and specialty care coverage as well. For all graduate students who do not have this coverage from another source, it will be provided at no cost to the student. If NOT WANTED, each student must complete the waiver form online by September 15.

Students may also enroll their spouses and dependents by filing an application with the YHP. The Graduate School will pay for half of this fee. The rest of the fee is applied through the Bursar’s office. Only those spouses and dependents specifically enrolled are eligible to receive YHP benefits and services. In addition to primary and emergency care, a full range of specialty services are available, including Allergy, Dermatology, Otolaryngology, General Surgery, Mental Hygiene, Neurology, Obstetrics and Gynecology, Ophthalmology, Orthopedic Surgery, Optometry, Contact Lenses and Urology.

For first-year students, YHP membership begins on the first day of registration. Prior to registration, a complete medical examination form and health report must be submitted to the YHP. If these forms are not available, YHP will provide the necessary examinations, and will bill the student a $25 charge. Additional information can be obtained by contacting the Member Services Office at 432-0246.

Dining Facilities
Several University dining facilities are maintained for the convenience of students, faculty and staff. In the Medical School and Science Hill areas, these include:
1. Marigold’s (367 Cedar St., adjacent to SHM).
2. Yale-New Haven Hospital Cafeteria (Main – 1st floor of the Hospital)
3. Atrium Café (Main Lobby of the Hospital, 1st floor)
4. Yale-New Haven Hospital Cafeteria (2nd floor of the Clinic Building, 330 Cedar St).
5. Hall of Graduate Studies Cafeteria (York Street)

Shuttle Buses
Schedules and routes can be found here: http://to.yale.edu/shuttle
The Yale Shuttle Bus is a campus-wide service operated by the University. Shuttles run every 20 minutes during peak hours, and every 40 minutes for the remaining time, starting at 7:20 a.m. until 6:00 p.m. The Shuttle is free with a valid Yale identification card. Schedule information is also available in SHM CE 1 or at the Parking Service Office, Hendrie Hall, 165 Elm St.

Evening Transportation
http://to.yale.edu/nighttime-campus-shuttle-schedule

Yale Nighttime Shuttle Service. 203 432-6330: Buses run from 6:00 p.m. to 7:30 a.m. Monday through Sunday (seven nights a week). This service runs on a scheduled route around the campus and also takes dispatched calls for off-route pickups. Service is available on call-in @ 2-6330 from any campus phone for service.

In addition to these services, the University Police provide transportation 24 hours a day for medical emergencies to the University Health Services. Call 432-4400 for this service.
Parking
Parking is available in various locations around campus on both a regular and a special service basis. Inquiries and applications for permits should be directed to the Medical School Parking Office, Basement of SHM (785-4201) for the Medical School Area or the Office of Parking and Transit Services, 155 Whitney Ave (432-9790) for the Science Hill district.

Security
Yale Security emphasizes that the campus is not immune to crime, property loss or personal injury. Individuals are urged to walk in groups, or request to be escorted by the Student Patrol Service which has been set up by the University Police to provide for safety on the streets and in the parking lots. Night-time transportation is available for students working late in the evenings.

Identification Card
During registration, incoming students will receive an identification card for access to campus facilities. In case of a lost or stolen ID card a new ID can be issued for a fee at the Medical School Support Center (CE 1 SHM) 9:00 a.m.-12:00 p.m.

Email Addresses
All neuroscience students can be reached by email. Use the generic Yale address format of firstname.lastname@yale.edu.

All neuroscience faculty can be reached by email. Use the generic Yale address format of firstname.lastname@yale.edu.

Computer Accounts
Each incoming graduate student is set up with a free computer account, including email access. Username and PIN number are sent to incoming students in the summer. This account gives you access to the Internet, MedLine, ORBIS, etc.

Keys
Most areas on campus are now accessible by swipe-access with your current ID. Departmental keys (for labs, etc.) should be obtained through the specific department’s business office.

Mail
New students may have their mail sent to the INP office where it will be held for pick up or forwarded to the department in which the student is currently working. Neurobiology students have mailboxes across from C303 SHM.

ATM
In the Medical School area, there is an ATM and Bank of America branch at 330 Cedar Street, between the Clinic Building and FMB on the first floor (go to the Information Desk and turn left). There is another ATM located on the main floor of the hospital.
1. University Athletic Facilities are available for standard fees. They include:
   a. Payne Whitney Gymnasium (70 Tower Parkway; 432-1444), for sports, dance, exercise and swimming. [http://sportsandrecreation.yale.edu/](http://sportsandrecreation.yale.edu/)
   b. Ingalls Skating Rink (73 Sachem Street; 432-4771) for ice skating sessions between mid-October and April.
   c. The Yale Golf Course (Ray Road; 432-0895).
   d. Cullman Tennis Courts (for indoor tennis, late October through late April) and outdoor courts (Derby Avenue; 432-0693).
   e. The Yale Sailing Center (Short Beach, Branford; 488-9330), which has equipment available for rent and offers sailing lessons.
   f. Outdoor Education Center (East Lyme, Ct.) Call 432-2492 for info.

2. Musical Opportunities/Activities include:
   a. The Yale Symphony Orchestra, which is comprised of students from all levels within the University.
   b. A variety of choral groups, encompassing several musical styles. For more information, contact the Music Department at 432-2986.
   c. The Yale School of Music sponsors frequent recitals, which are listed in the Weekly Bulletin & Calendar.
   d. The New Haven Symphony Orchestra and the Woolsey Hall Concert Series. Tickets are available at the New Haven Symphony Office, 33 Whitney Avenue.

3. Theatrical Productions
   a. The Yale Repertory Theatre (Chapel and York; 432-1234)
   b. The Long Wharf Theatre Company (222 Sargent Drive; 787-4282)
   c. The Yale Cabaret (217 Park Street; 432-1566)
   d. The Shubert Theatre (College Street)

4. University Museums
   a. The Peabody Museum of Natural History (Sachem & Whitney; 432-5050), Exhibits of the natural history of the New England area, with extensive collections in geology, anthropology and ornithology. Displays include minerals; birds of Connecticut; fossil plants, fish, birds, reptiles and mammals; and, of course, dinosaurs.
   b. The Yale Art Gallery (Chapel & York Street; 432-2600) includes extensive collections of 17th, 18th and 19th century paintings and furnishings.
   c. The British Art Center (Chapel & High Street; 432-2858) contains a collection of British paintings, drawings, prints, rare books and sculpture assembled over the past 35 years by Paul Mellon.
NEUROSCIENCE TRACK COMMITTEES

Admissions Committee
Charles Greer (Chair)
Daeyeol Lee
Michael Crair
Marina Picciotto
Haig Keshishian
Elena Gracheva
Ifat Levy
David Zenisek

Diversity Coordinator: Nii Addy

Interdepartmental Neuroscience Program Committees

Executive Committee
Charles Greer    Co-Director
Haig Keshishian  Co-Director
Michael Crair    Neuroscience
Jess Cardin      Neuroscience
Barbara Ehrlich  Pharmacology
Marvin Chun      Psychology
Susumu Tomita    C & M Physiology
Tony Koleske     Molecular Biophysics and Biochemistry
Marina Picciotto Psychiatry
Zhihao Zhang     Student Representative

Graduate Student Affairs Committee
Charles Greer (Chair)
Haig Keshishian

(Student Representative to be announced)

Curriculum Committee
Michael Crair, Chair

The composition of these committees is subject to rotation or change on an annual basis.