PHARMACOLOGY

Sterling Hall of Medicine B316, 203.785.7469
http://medicine.yale.edu/pharm
M.S., M.Phil., Ph.D.

Chair
Joseph Schlessinger

Director of Graduate Studies
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Professors
Karen Anderson, Anton Bennett, Yung-Chi Cheng, Jack Cooper (Emeritus), Priscilla Dannies (Emerita), Barbara Ehrlich, Jonathan Ellman, James Howe (Emeritus), Leonard Kaczmarek, Mark Lemmon, Elias Lolis, Gary Rudnick, Joseph Schlessinger, William Sessa, Dianging (Dan) Wu

Associate Professors
Titus Boggon, David Calderwood, Kathryn Ferguson, Ya Ha, Irit Lax, Benjamin Turk

Assistant Professors
Daryl Klein, Bryce Nelson

FIELDS OF STUDY
Major emphases in the department are in the areas of molecular pharmacology, mechanisms of drug action, signal transduction, structural biology, neuropharmacology, and chemotherapy.

SPECIAL ADMISSIONS REQUIREMENTS
A bachelor's degree in biology, chemistry, or another science is required. Undergraduate courses should include biology, organic chemistry, physics, and calculus. GRE scores are required; a GRE Subject Test, preferably in Biology or Chemistry, is recommended.

To enter the Ph.D. program, students should apply to an interest-based track within the interdepartmental graduate program in Biological and Biomedical Sciences (BBS), http://bbs.yale.edu. Most students interested in a Ph.D. in Pharmacology apply through the Molecular Medicine, Pharmacology, and Physiology track or the Biochemistry, Quantitative Biology, Biophysics, and Structural Biology track.

SPECIAL REQUIREMENTS FOR THE PH.D. DEGREE
Because the field of pharmacology encompasses many disciplines, the department’s flexible program of study toward the Ph.D. degree permits students to concentrate in areas of their particular interest. Students must take the core graduate pharmacology course (PHAR 504) and the two terms of the graduate seminar course (PHAR 502) or equivalent from another department. The other courses will be selected based on each student’s interest but must include at least two of three other courses: PHAR 528, PHAR 529, and PHAR 550; PHAR 560 may be substituted for PHAR 550. Students are required to do three laboratory rotations. The Graduate School requires a grade of Honors for a minimum of two courses. Honors for seminar courses or rotations cannot be used toward this requirement. Students must meet the Honors requirement prior to being admitted to candidacy. Students must also maintain an overall High Pass average. A grade of Honors or High Pass is required for PHAR 504. Student progress toward these goals is reviewed at the end of the second term.

Prior to registering for a second year of study, students must successfully complete PHAR 580, The Responsible Conduct of Research, or the equivalent from another department. In addition, two lectures from PHAR 580 and one lecture from B&BS 503, RCR Refresher for Senior BBS Students, must be completed by the end of the fourth year.

Students are also required to pass the qualifying examination by the end of their fourth term. Before the end of the third year, a thesis prospectus must be submitted and accepted for admission to candidacy. A doctoral dissertation based upon original research includes an oral presentation given only to the pharmacology faculty (pre-defense). Within six months of passing the pre-defense, the student must submit a preliminary written thesis to the thesis committee and an outside reader. A public Ph.D. dissertation seminar will be scheduled, followed by a closed examination by the thesis committee and the outside examiner. Once the draft of the written thesis is approved by the thesis committee, it is submitted to the Graduate School. Two first-author manuscripts are required from the thesis research.

An important aspect of graduate training in pharmacology is the acquisition of teaching skills through the participation in courses related to the student’s scientific interests. These opportunities can be drawn from a diverse menu of lecture, laboratory, and seminar courses given at the undergraduate, graduate, and medical school levels. Ph.D. students are required to participate in two terms (or the equivalent) of teaching. Fulfillment of this requirement occurs by the end of the third year. Students are not expected to teach during their first year.
M.D./PH.D. STUDENTS
M.D./Ph.D. students must satisfy all of the above requirements for the Ph.D. with the following modifications: (1) only two of three laboratory rotations are required; (2) some medical school courses (except Pharmacology) can qualify as Graduate School courses as long as the M.D./Ph.D. student registers for them in OCS (Online Course Selection); and (3) only one term of teaching is required. Current Graduate School courses cannot be used to fulfill any medical school course requirements.

MASTER’S DEGREES
M.Phil. See Degree Requirements under Policies and Regulations.

M.S. (en route to the Ph.D.) Students are eligible for the M.S. degree upon successful completion of the first three terms of the Ph.D. program. This includes one year of lab rotations and course requirements.

Program materials are available upon request to the Director of Graduate Studies, Department of Pharmacology, Yale University, PO Box 208066, New Haven CT 06520-8066.

COURSES