ENTOMOLOGY (ENTM)

Graduate Degree Program
College: Computer, Mathematical, and Natural Sciences

Abstract
The Department of Entomology offers Doctor of Philosophy and Master of Science degrees. Graduate students may conduct research in a range of both basic and applied topics, including insect ecology and behavior; physiology, morphology, evolution and biosystematics; insect pathology, molecular biology and genetics; aquatic entomology; pollinator biology and apiculture; and integrated pest management.

Employment opportunities for graduates exist in industry; academia and extension; federal, state, and local governments; private and non-profit arenas; and in international and national spheres.

Financial Assistance
Graduate students are supported primarily in two ways. Many students are supported by extramural funding sources, usually obtained by the student’s faculty advisor or by the student for research on a specific topic. The second type of support is provided by the department from internal funds via University and departmental fellowships and teaching and research assistantships. Teaching and research assistantships are available on a competitive basis. Teaching assistants usually instruct undergraduate laboratory and recitation classes and receive in return a tuition waiver of ten credits each semester. Those students whose records indicate superior academic achievement and promise may also be competitive for University and departmental fellowships. Several part-time employment opportunities are also available in governmental and private research laboratories in the area. Regardless of the initial source of funding, the department makes a financial commitment to each graduate student. In the case of master’s students, support is provided for the first three years of the program only. In the case of doctoral students, five years of support is provided but must be used during the first six years of the student’s program. Support is usually for the full 12 months per year.

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Website: http://www.entm.umd.edu

Courses: BSCI (https://umd-curr.courseleaf.com/graduate/courses/bsci/) ENTM (https://umd-curr.courseleaf.com/graduate/courses/entm/)

Relationships: Biological Sciences (BISI) (https://academiccatalog.umd.edu/graduate/programs/biological-sciences-bisi/); Marine, Estuarine, and Environmental Sciences (MEES) (https://academiccatalog.umd.edu/graduate/programs/marine-estuarine-environmental-sciences-mees/)

Admissions
General Requirements
- Statement of Purpose
- Transcript(s)
- TOEFL/IELTS/PTE (international graduate students (https://gradschool.umd.edu/admissions/english-language-proficiency-requirements/))

Program-Specific Requirements
- Letters of Recommendation (3)
- CV/Resume
- Optional Writing Samples (up to 2)

Students applying for graduate work in entomology are expected to have a strong background in the biological or agricultural sciences, chemistry, genetics, and mathematics. An undergraduate degree in entomology is not required, but a strong basic preparation is preferred for admission to the program.

Admission is granted on the basis of the following criteria by the Graduate Affairs Committee: Analysis of transcripts, including course selection and GPA; letters of recommendation; statement of purpose; and acceptance by a graduate faculty advisor. International applicants must also submit proof of English proficiency (TOEFL, iBT or IELTS scores). Acceptance by an advisor is absolutely required; thus, it helps to make contact with faculty when applying.

Upon admission to the MS or PhD program, the student’s study committee suggests a program of coursework and approves a detailed research proposal.

Application Deadlines
Type of Applicant | Fall Deadline
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Domestic Applicants | |
US Citizens and Permanent Residents | December 1, 2021
International Applicants | |
F (student) or J (exchange visitor) visas; A, E, G, H, I and L visas and immigrants | December 1, 2021

RESOURCES AND LINKS:
Program Website: http://www.entm.umd.edu

Requirements
- Entomology, Doctor of Philosophy (Ph.D.) (https://academiccatalog.umd.edu/graduate/programs/entomology-entm/entomology-phd/)
- Entomology, Master of Science (M.S.) (https://academiccatalog.umd.edu/graduate/programs/entomology-entm/entomology-ms/)
Facilities and Special Resources
Overview
The department is housed in a modern research facility on the College
Park campus, where state-of-the-art offices, laboratories, environmental
growth chambers, multimedia classrooms, and lecture halls provide an
excellent environment for research and teaching. Students have individual
workstations and access to sophisticated computer graphic facilities.
The department also shares extensive technical expertise and scientific
equipment with other departments on campus. The University’s strategic
location in the Washington, DC area provides many opportunities for
students to conduct research and gain hands-on experience in federal
facilities, such as the Smithsonian Institution, USDA-ARS Beltsville
Agricultural Research Center, Walter Reed Army Institute of Research, NIH,
and more. Vast resources are available in the University’s library system
and nearby federal libraries. The USDA’s National Agriculture Library at
Beltsville is only four miles from campus, and the Library of Congress
is in nearby Washington, DC. Besides the main campus, the Maryland
Agriculture Experiment Station has Research & Education Centers in the
state where field and laboratory work is carried out on urban and
agricultural insects. Land use and technical services at these centers are
available to faculty and students.

Institutional Partners
The University of Maryland is a large Research University located just
outside of Washington, DC. Our unique location enables us to offer research
opportunities with neighboring universities, research institutes, and state
and federal laboratories, including:

• USDA Beltsville Agricultural Research Center (https://
  www.ars.usda.gov/northeast-area/beltsville-md-barc/beltsville-
  agricultural-research-center/)

• Smithsonian National Museum of Natural History (https://
  naturalhistory.si.edu/)

• Smithsonian Conservation Biology Institute (https://
  nationalzoo.si.edu/center-for-conservation-genomics/)

• NASA Applied Sciences Program DEVELOP (https://
  develop.larc.nasa.gov/about.php)

• National Institutes of Health (https://www.nih.gov/)

• Walter Reed Army Institute of Research (https://www.wrair.army.mil/)

• United States Department of Agriculture National Institute of Food
  and Agriculture (https://nifa.usda.gov/)

• USGS Patuxent Wildlife Research Center (https://www.usgs.gov/
  centers/pwrc/)

• Environmental Protection Agency (https://www.epa.gov/)

• National Park Service (https://www.nps.gov/)

Campus Resources
The Plant Sciences Building is adjacent to the Biology-Psychology,
Bioscience Research, and Microbiology Buildings, which facilitates
interaction between multiple departments – Entomology, Plant Sciences,
Biology, Cell Biology & Molecular Genetics, Neuroscience & Cognitive
Science, and Microbiology – in a highly collaborative environment.

Research Farms & Greenhouse
The department is affiliated with both the College of Computer,
Mathematics & Natural Sciences (https://cmns.umd.edu/) (CMNS)
and Agriculture & Natural Resources (https://agnr.umd.edu/) (AGNR). Our
close ties to AGNR allow faculty and students to utilize the Maryland
Agricultural Experiment Station, which maintains Research & Education
Centers at nine sites across the state where field and laboratory work is
carried out on urban and agricultural insects.

At each research farm, faculty and students have access to plot space
and experienced farm crews that can help maintain research/training
plots. Each farm is equipped with tractors, planters, sprayers and irrigation
equipment as well as crop management and harvest equipment to carry
out research. Each facility is also equipped with wagons for transporting
stakeholders on farm tours.

Faculty and students also have access to a state-of-the-art
greenhouse (https://agnr.umd.edu/research/research-and-education-
centers-locations/research-greenhouse-complex/) on campus. This
resource is a 2-acre site with 45,000 square feet in greenhouse space and
an outdoor nursery area.

Insect Rearing & Animal Housing
Insect rearing facilities include Percival incubators within laboratories and
walk-in growth chambers in the department, all of which have temperature,
light and humidity controls. A fly food facility (housed on the 5th floor of the
Plant Sciences Building) is shared by five fly groups on campus, providing
fly food to each once per week at minimal cost.

The Animal & Avian Sciences Building provides housing for the animal
subjects (https://ansc.umd.edu/research/research-facilities/) involved in
research and teaching programs at UMD. The facility can accommodate
mammalian, reptilian, avian, and aquatic animal subjects. It contains
modem, climate controlled, and restricted access space for animal
housing, as well as ancillary rooms used to perform surgeries, conduct
research, mix feed, and wash cages. This facility is located within walking
distance of the Plant Sciences Building.

High Performance Computing
Faculty and students at UMD are provided access to Deepthought2,
MARCC/Bluecrab, and Juggernaut high-performance computing clusters
(http://hpcc.umd.edu/) through the Division of Information Technology
(DIT). A variety of open-source software packages relevant to biological
research are available, maintained, and updated on these clusters by DIT.

Core Facilities
The College of Computer, Mathematics, and Natural Sciences and the
University maintain a large number of Core Facilities (http://
biosciencescores.umd.edu/), all of which are available to faculty and
students.

• Imaging Core (http://biosciencescores.umd.edu/imaging.html)

• Genomics Core (http://biosciencescores.umd.edu/genomics.html)

• Proteomics Core (http://biosciencescores.umd.edu/proteomics.html)

• Flow Cytometry Core (http://biosciencescores.umd.edu/flow-
cytometry.html)