



Department of
**ENVIRONMENTAL AND
 MOLECULAR TOXICOLOGY**

The Environmental and Molecular Toxicology program is addressing some of the most serious challenges affecting our society from pollution and environmental disasters to environmental health effects and treatments. Our mission is to educate students in the toxicological and environmental chemistry sciences, conduct research on the fate of chemicals and effects and risks on humans and other organisms, and engage the public through extension and outreach on the effects of chemicals on humans and the environment to enhance the treatment and prevention of human disease.



“ *The features that drew me to Environmental and Molecular Toxicology were the possibility of protecting humans and the environment.* ”

EMT Alumni 2020 Survey response

Read more at agsci.oregonstate.edu

ENVIRONMENTAL AND MOLECULAR TOXICOLOGY AT A GLANCE

16



Faculty

22



Undergraduate Students

28

Graduate Students

Degree Programs

Undergraduate

Toxicology

Graduate

Toxicology | M.S. | Ph.D.

Professional Masters of Toxicology (PSMTOX) | M.S. | Ph.D.

Experiential Learning Opportunities

Students have many opportunities outside of the classroom that advance understanding of:

Core concepts of the science of toxicology, hazard identification, exposure assessment.

The role of toxicology in society including the importance of risk analysis, management and communication.

Technical aspects and experimental approaches in toxicological research and risk assessment.



Research

2022 Research Expenditures: \$9,883,568

Research Focus Areas:

- Experimental Toxicology
- Environmental Chemistry
- Pesticide Information
- Data Science
- Primary home of two NIEHS Centers (Superfund and Environmental Health Sciences Centers)

EMT also is home to the Sinnhuber Aquatic Research Laboratory (SARL), a world class 17,000 ft² facility core research facility near the OSU Campus. SARL is equipped with state-of-the-art automation, imaging and neurobehavioral assessments instruments to support unparalleled research productivity and is home to a zebrafish laboratory with 18,000 research tanks that hold up to 60,000 adult zebrafish for short and long-term studies.

Extension Highlights

EMT is highly active in extension efforts with critical programs that address life-saving issues, including:

- The National Pesticide Information Center (NPIC) is a cooperative agreement between OSU and the U.S. Environmental Protection Agency. Founded in 1995, NPIC provides services via an 800-telephone number, email, website, multi-platform apps and social media.
- The Agricultural Chemistry Extension Program provides expertise in chemistry and environmental behavior of pesticides and other xenobiotics, and knowledge of pesticide technology, pest control practices, exposure assessment, and environmental toxicology, as well as the teaching and outreach skills necessary to bring these subjects understandably to extension agents, other specialists, and to all segments of the community.
- Other service and outreach laboratories at EMT include:

The Endophyte Laboratory, testing feed materials to ensure safe animal feed for use and export.

The Food Safety and Environmental Stewardship Laboratory provides quality assured analytical support for food safety, human safety and exposure assessment, and environmental integrity preservation. The department is also home to the Pesticide Educational Resource Collaborative and the Aquatic Toxicology Laboratory

The Future of Environmental and Molecular Toxicology

Our first agricultural chemistry faculty member was hired in 1883 and started the illustrious history of the department. In the 140 years since our science has progressed into the fields of toxicology and environmental chemistry and in 1998 our department was renamed Environmental and Molecular Toxicology. EMT programs offer a unique synthesis of biology and chemistry, which allows us to focus on creation, dissemination, and application of new biomedical and chemical knowledge to ensure the protection of the environment and public health, as well as enhance the treatment and prevention of human disease. This integrated approach provides exciting training and research opportunities for graduate students and supports our state-of-the-art, internationally competitive research programs. EMT is solving some of the important challenges our society faces.

