



ENVIRONMENTAL  
*and*  
MOLECULAR  
TOXICOLOGY



Oregon State University

Toxicology Program:

**2016 Summer Undergraduate  
Research Internships in  
Toxicology**

**Hosted by:**

**Dept. of Environmental and Molecular Toxicology**

The Department of Environmental and Molecular Toxicology (EMT - <http://emt.oregonstate.edu/>) at Oregon State University in partnership with the Society of Toxicology (SOT) encourages students to consider a career in toxicology! Toward this goal, OSU and SOT are collaborating and offering a Summer Undergraduate Toxicology Research Internship at OSU to encourage interested undergraduates to gain experience in Toxicology research and pursue graduate toxicology training, especially at Oregon State University.

Summer Research Internships will consist of an 8-week (June 20 – August 14, 2016) summer research experience for domestic undergraduate students who are interested in pursuing a career in Toxicology. Students accepted to the internship will participate in laboratory research, and interact with faculty and graduate students at OSU in a variety of venues that will help prepare them for success in a research-intensive doctoral program in toxicology. This 8-week program will provide a \$4,000 stipend, housing, living and travel expenses. Students must participate 8-5 pm weekdays for the entire 8-week period. Internship experiences will include intensive hands-on research conducted in EMT laboratories, round table discussions, seminars, lab group meetings, career development activities and other activities. At the end of the fellowship, each student will deliver a brief oral presentation on his or her summer research project.

**Eligibility:** This program is targeted primarily toward current undergraduates who will be completing their undergraduate degree within the next two years. Funding requires that participants be US Citizens or US Permanent Residents. Students from groups who are underrepresented in the sciences are strongly encouraged to apply.

**ABOUT EMT:** The OSU Toxicology program trains students in the toxicological sciences, to conduct research on the effects of chemicals and other agents on humans and the environment and to engage the public through extension and outreach. The EMT Department focuses on creating, disseminating, and applying new knowledge to enhance the treatment and prevention of human disease and to ensure the protection of the environment and public health. EMT training programs in the field of toxicology are closely aligned with the research expertise of our faculty and focus on two major areas of research that will be available for internships:

1) **Molecular and Mechanistic Toxicology:** The mechanisms of toxic responses at the molecular, cellular and whole animal levels, with an emphasis on pathways by which environmental chemicals cause toxicity and disease, by perturbing critical cell signaling pathways or inducing DNA mutations and aberrations which then result in cancer and other environmental diseases.

2) **Environmental Chemistry and Ecotoxicology:** Concomitantly, our programs focus on how molecular interactions and macroscopic transport phenomena determine the spatial and temporal distribution of chemicals (transport and fate of chemicals in ecosystems and the environment), and the resultant 'bioavailability' of these chemicals, and thus ultimately the exposure (doses) of these chemicals to humans and other organisms.

EMT programs offer a unique and exciting synthesis of the fields of Biology (Molecular Toxicology) and Chemistry (Environmental Chemistry), which positions EMT to focus on creating, disseminating and applying new biomedical and biophysical knowledge to enhance the treatment and prevention of human disease, and to ensure the protection of the environment and public health. This integrated approach, combining both the biological. This synthesis of approaches provides a unique inter- and multi-disciplinary training program which integrates current advances in chemistry, toxicology, and ecology, thus providing an exciting and competitive training environment for trainees. EMT offers a highly collegial and exceptionally collaborative, research and training environment dedicated to the success and advancement of all EMT trainees.

EMT has nineteen faculty members who maintain diverse research programs collectively aimed at understanding environmental hazards and their impacts on biological systems in order to protect human health and the environment while complimenting and supporting the Toxicology training programs offering Ph.D. and M.Sc. degrees in Toxicology and an undergraduate minor. EMT hosts one of the NIEHS-funded Superfund Research Programs (<http://superfund.oregonstate.edu/>).

**ABOUT OSU:** Oregon State is a leading research university located in one of the safest, smartest, greenest small cities in the nation situated 90 miles south of Portland, an hour north of Eugene, and an hour from the Cascades or the Pacific Coast. Corvallis is a vibrant college town of 55,000 in the heart of Western Oregon's Willamette Valley, consistently ranks among the best and safest cities to live in the U.S., as well as among the most environmentally responsible. Founded in 1868, the Oregon State 400-acre main campus is a Land Grant university and is one of only two universities in the U.S. to also have Sea Grant, Space Grant and Sun Grant designations. Oregon State is also the only university in Oregon to hold both the Carnegie Foundation's top designation for research institutions and its prestigious Community Engagement classification. As Oregon's leading public research university, with over \$250 million in annual external funding, Oregon State's has both national and international presence and impact.



## **Application Process and Instructions:**

Each application must include all of the following elements:

**1) Personal Statement.** This document should address the applicant's long range career goals, their interest in a summer internship, and interest in graduate studies in the field of toxicology. In the statement, applicants should describe their interest in the summer program including their interest and motivation to engage in molecular toxicology or environmental chemistry basic research. It should also include details of previous research experiences and identify potential EMT faculty mentors of interest (<http://emt.oregonstate.edu/people/faculty>), as well as any additional information to highlight strengths to support the application. The maximum length of the personal statement is 1000 words and be prepared in 12 point font.

**2) Letters of Recommendation:** On the application form, include the name, title, and email address of two persons who will be submitting your letters of recommendation. Referees should be persons who are able to specifically address your academic and research achievements and capabilities and potential for laboratory research. It is the applicants responsibility to contact the references to solicit the letter of recommendation. Applicants will need to request the Referees to email the letter of recommendation DIRECTLY to: "Mary Mucia" [Mary.Mucia@oregonstate.edu](mailto:Mary.Mucia@oregonstate.edu).

**3) Unofficial (or Official) Transcript:** Applicants need to provide transcripts of all college level coursework. These may be official transcripts or unofficial copies of official transcripts.

**4) Applicant Information and qualifications.** The applicants should also complete and submit the APPLICATION FORM, available at: <http://emt.oregonstate.edu/summer-undergraduate-research-internships>. Applicants should download and complete the form, and submit as a PDF.

**Submitting the applications:** Items 1, 3 and 4 should be completed and returned to EMT. If possible, these three items should be combined and submitted by the applicant as a single PDF file, and emailed directly to: "Mary Mucia" [Mary.Mucia@oregonstate.edu](mailto:Mary.Mucia@oregonstate.edu). The title of the PDF file should be "EMT Internship\_applicantlastname". If not, individual documents may be submitted, but named similarly and appropriately. Items 2 should be returned to EMT via email directly by the referees. Hardcopies of materials are NOT required.

**Applications should be submitted as soon as possible but NO LATER THAN by April 1, 2016. Review of applications will begin Jan 1, 2016.**