



DARTMOUTH MONTSHIRE INSTITUTE FOR SCIENCE EDUCATION



PROJECT OVERVIEW

Using Plants as Model Organisms: A Middle School Experimental Design Curriculum

Project Details	
Funder	National Science Foundation
Lead Organization	Dartmouth College
Outreach budget	\$58,000
Total project budget	--
Project dates	9/1/01 - 8/31/02
Related Research Project	--

Principal Investigators and Project Staff

- ▶ Mary Lou Guerinot, Scientific P.I., Department of Biological Sciences, Dartmouth College
- ▶ Greg DeFrancis, Outreach Science Education P.I., Director of Education, Montshire Museum of Science
- ▶ Rachel Donegan, Educational Programming, Science Educator, Montshire Museum of Science

Project Summary

The project augments another Dartmouth-Montshire Institute curriculum program, [Environmental Detectives](#). The addition of Dr. Mary Lou Guerinot's lab and her resources to the Environmental Detectives program enabled project staff to develop a series of bioassays using plants as the model organism. Project staff found that for certain teachers, the logistics and ethics of keeping live animals in their classrooms to use as experimental organisms, even aquatic invertebrates, proved to be a barrier to middle school students successfully designing, implementing, and finding measurable results in their own dose-response experiments. This project supported the successful introduction of using plants for a variety of toxicology experiments in which teachers and students develop bioassays such as radish seed germination under different conditions and others.