



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

<b>Name(s)</b> <b>Yu Xia</b>	<b>Project Number</b> <b>S1133</b>
<b>Project Title</b> <b>Phytoremediation: Colorimetric and Bio-chamber Studies of Air and Water Contaminants Removal Capacity of Various Plants</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective is to determine the possibility of using easy and accessible materials along with plants to remove air and water contaminants.</p> <p><b>Methods/Materials</b> In Phase I of the experiment, polytrichum (moss) and equisetum (horsetail)'s ability to absorb copper in water is tested. In Phase II, a primitive bio-chamber is constructed to test out the possibility of using triticum (wheat grass) as an air-filter.</p> <p><b>Results</b> In Phase I, results showed that the intaking of water in plant metabolism absorbed copper in water as well. As for Phase II, while quantitative data wasn't able to be obtained, the qualitative comparison of the testing materials between the control and the experimental group showed that tritium did have some air-filtration effect.</p> <p><b>Conclusions/Discussion</b> The experiment successfully proved that extremely accessible plants could be used as a way to remediate air and water pollution. This experiment also points to a new possibility of using bio-filter made from readily available plants to serve as a pollution control technique.</p>	
<b>Summary Statement</b> This project looks at the possibility of using easy and accessible materials along with plants to remove air and water contaminants.	
<b>Help Received</b> Mother helped with the board design; Used school's lab equipment; Stepfather for drilling the chamber; Mr.Garabedian for teaching me how to use some laboratory equipments.	