



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Yanosh D. Cerovcevic</b>	<b>Project Number</b> <b>J0805</b>
<b>Project Title</b> <b>Natural Air Cleaning</b>	
<b>Abstract</b> <b>Objectives/Goals</b> Observing air quality and visibility in Los Angeles, the following was found: Air was more polluted and visibility was lower before than after rain. Hypothesis: water can clean air. <b>Methods/Materials</b> A Rain Chamber was constructed to test the hypothesis. Sprinklers were installed in a plastic cylinder to create rain effect. A hole was drilled and air intake pipe was attached to a lower part of the cylinder. Another hole was made on top of the cylinder and air exhaust pipe was connected to it. A pressure gauge was added before sprinklers. An electric water pump was used to make water pressure and flow. Test was performed in a smog check station. The air intake fitting from the "Rain Chamber" was connected to a muffler of a Plymouth Voyager to conduct tests. To make sure all the pollution out of muffler will come to the device, connecting tubes were sealed with masking tape. <b>Results</b> With the water pump turned on and sprinklers creating dense mixture of water particles and mist, CO (carbon monoxide) was decreased 25%, HC (hydrocarbon) 10% and CO <sub>2</sub> 2%, while O <sub>2</sub> was increased by 50%. Results proved my hypothesis correct. <b>Conclusions/Discussion</b> The main objective of this project was to create a device that will clean air indoors, similar way as rain does it outdoors. Because of lack of instruments needed to take measurements in that environment that was not possible. The prototype was made for much harder test: to clean polluted air that comes directly out of a car's muffler. With this device, measurements were possible to be taken in any smog test station. My Rain Chamber is good for cleaning air indoors and it can be used in homes, business, hospitals, parking structures, places where people smoke, restaurants and every other place where air may be polluted.	
<b>Summary Statement</b> The main objective of this project was to create a device that will clean air indoors, similar way as rain does it outdoors.	
<b>Help Received</b> Father helped to drill holes in a plastic cylinder. Mr. Ventura, the owner of the smog test center provided equipment and helped with test.	