



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Dominic Eftekhazadeh; Lorenzo Ramos; Nicholas Tudor</b>	<b>Project Number</b>  36750
<b>Project Title</b> <b>The Coolest Apparatus</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Our goal is to find a way to make a practical cooling apparatus used for recreational and military uses that cools down a person's body.</p> <p><b>Methods/Materials</b></p> <ol style="list-style-type: none"><li>1. Plastic tubing (thin walled/silicone)</li><li>2. Felt material</li><li>3. Plastic boarding</li><li>4. Filter media</li><li>5. Hand pump</li><li>6. 12V-18V batteries</li><li>7. Compact fan</li><li>8. Silicone</li><li>9. Hot glue (and glue gun)</li><li>10. Sports mesh</li><li>11. Water (colored)</li><li>12. PVC piping</li><li>13. Thermometers (temp. and humidity)</li><li>14. Marker</li></ol> <p><b>Results</b> Using cooling properties of both air and water, an apparatus that can come in direct contact with a warm body can effectively transfer heat to the water where it is cooled by air that takes the warmer water out of the apparatus and leaves cooler water that can be used again.</p> <p><b>Conclusions/Discussion</b> In our experiments with our cooling apparatus, we looked for a way that could quickly stabilize a person's body temperature so that they were comfortable in warm environments and cooled under strain.</p>	
<b>Summary Statement</b> Our project is a wearable cooling unit that cools down the human core.	
<b>Help Received</b> We received help from an environmental scientist, who supplied us with equipment used during the project.	