



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

<b>Name(s)</b> Sam Scherz; Nathan Stull	<b>Project Number</b> <b>J1818</b>
<b>Project Title</b> Tesla's Egg of Columbus	
<b>Abstract</b> <b>Objectives/Goals</b> The objective/goal of our experiment is to determine what set of conditions would lead to rapid, stable rotation of various objects within a rotating magnetic field. <b>Methods/Materials</b> To set up our experiment we made our controls a steel sphere at 16g and 0 degrees on the axis of the rotating magnetic field; and the constants were the wind, amperage, bowl, and many others. We setup our experiment by drawing different rings to help determine stability and drew different lines to help determine the position of the egg of the on the axis. For our experiment we used our machine, several different spheres/eggs, markers and a compass. <b>Results</b> We tested our project by seeing what area these objects spent a majority of their time in, and by testing what angles provided the most change in direction. Nate's results that the controls stayed perfectly in the center, the steel sphere 6 g was 5.8 cm, the steel 19 g was 2.8 cm off the center, the steel egg at 14 g was 3.9 cm, the steel egg at 17 g was 3.6 cm, and the steel egg 22 g was 3.2 cm. For Sam's results, we found that the area which showed the most amount of change were between 30-40 degrees on the 2nd quadrant. <b>Conclusions/Discussion</b> In conclusion, the more round and more heavy a shape, the more that it will stay close to the center, and that 30-40 degrees on the second axis showed the most change, and actually self started.	
<b>Summary Statement</b> Our central focus was to build a machine that would generate a rotating electromagnetic field, so that we could test its affect and relationship to different objects.	
<b>Help Received</b> Paul helped order parts, helped in the design, supervised the building and over saw the testing of material.	