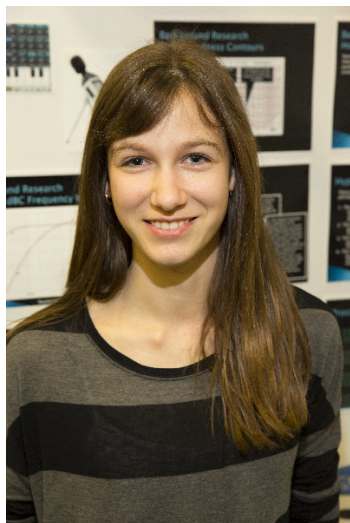


CWSF 2014 - Windsor, Ontario



Anastasia Young

Turn It Up (Our Perception of Loudness)

Challenge: Discovery

Category: Junior

Region: Ottawa

City: Ottawa, ON

School: Turnbull School

Abstract: The purpose of my project was to determine which factors of sound affect our perception of loudness. I created 36 different tests with two sounds, the first, a reference, the second varying in one of the four variables-amplitude, duration, frequency or harmonics. I presented these tests to subjects and studied the results, finding that each of these variables contributed to our perception of loudness.

Biography

I am a grade 7 student at Turnbull School. I love music, reading and water sports. I was inspired for my experiment at the Science Fest where someone was talking about how toys that make sounds, like a train, must be below a certain sound pressure to avoid damaging the user's ears. However, it was easier said than done. There are so many factors that affect our perception of loudness and it is not that easy. I then started to wonder which factors they were. In the future, to extend my project, I would try to find out more about the subject's background (the more musical experience they have, the more they will know about sounds.) For other students, I would recommend doing a science fair on something that you are passionate about, something you love, because it will make the entire experience more enjoyable and the presentation better if you are enthusiastic.

Awards

Value

Excellence Award - Junior - Bronze Medal Sponsor: Nuclear Waste Management Organization	\$100
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 100