

# CWSF 2012 - Charlottetown, Prince Edward Island



## Erik Bercik, Alex Bercik

### A Novel Rooftop Wind Turbine for Convenient Residential Use

**Challenge:** Innovation

**Category:** Intermediate

**Region:** Bay Area

**City:** Ancaster, ON

**School:** Westdale S.S.

**Abstract:** Our aim was to develop a novel wind turbine model for residential use. We modified the internal structure of a commercially available attic ventilation fan to produce electricity and created an axial-flux alternator. Using an array of fans, we measured electricity generated and the effect of a roof on the turbine's efficacy. The slanted roof increased the performance of the turbine by up to 84%.

#### Biographies

Erik - I was born in Prague, Czech Republic in 1996. I moved to Canada with my family when I was about 2 years old. I have always been interested in how things work and how to build things. One of my hobbies was to build structures with Lego but I never followed the models in the boxes, I liked to create my own. I also like music, and I play piano (grade 7 of RCM), saxophone (grade 4 of RCM) and base guitar. I play in the jazz band in my school. I currently attend Westdale Secondary School, and I am in grade 10. I have participated in two Science Fairs before, where I was awarded bronze and silver merit awards. I enjoy speaking other languages and I...

Alex - I was born in the Czech Republic, and moved to Canada when I was 6 months old. I grew up in Ancaster, a town just outside of Hamilton, Ontario. I attend Westdale Secondary School in Hamilton, where I am currently in grade 9. I am passionate about soccer. Since 2007, I have been playing in rep soccer teams, and continue to regularly watch many soccer games. I am also very interested in science, in particular physics. When I grow up, I plan to pursue a career in this field. I play several musical instruments, focusing on piano and guitar. With respect to my project, I got the idea when I was sitting in my backyard with my brother. We noticed an...

#### Awards

#### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Nuclear Waste Management Organization	\$300
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$1 300</b>