

# CWSF 2012 - Charlottetown, Prince Edward Island



## Cove McConnell

### Tubercles: The Leading Edge of Wing Design

**Challenge:** Innovation

**Category:** Junior

**Region:** Frontenac, Lennox & Addington

**City:** Kingston, ON

**School:** Calvin Park P.S.

**Abstract:** A hypothesis that tubercles improve aerofoil performance was investigated via a novel approach in which model airplanes were used as dynamic test beds, in contrast to static wings in wind tunnels. Tubercles were found to significantly degrade performance in terms of distance travelled. A novel finding was that tubercles significantly improve directional stability.

### Biography

I am a grade 7 student in the Challenge program at Calvin Park Public School. I play basketball, I sprint, and I cycle. I like drawing and drama. I have won awards in art, history, and science. I love politics and the environment. If there is one thing that stands out about me it is my love of flying. I have flown with an instructor, and intend to get a pilot's license when I'm old enough. This project came to be as I was looking through an environmental magazine. I found that tubercles were applied to fans, and saw the possibility of experimenting with my two favourite subjects: flight, and the environment. My advice to other students thinking about participating in science fair is this: don't be afraid to take chances, think big, and find a good mentor. My plans for post secondary education are to go to university and study aeronautical engineering and aircraft design. "For once you have tasted flight, you will forever walk with your eyes turned skyward, for there you have been, and there you will long to return", Leonardo da Vinci.

### Awards

### Value

Excellence Award - Junior - Gold Medal Sponsor: Youth Science Canada	\$1 500
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
Total	\$5 500