

# CWSF 2008 - Ottawa, Ontario



## Jeff Graansma

### The Pandemic Ventilator

**Division:** Health Sciences / None

**Category:** Senior

**Region:** Waterloo-Wellington

**City:** Kitchener, ON

**School:** Forest Heights Collegiate

**Abstract:** During an influenza pandemic, the need for ventilators may greatly exceed supplies. Triage protocols implemented by governments determine who will get access, and who will die if denied. It will not be possible to construct enough commercial ventilators in time once a pandemic begins. This project constructs and tests a ventilator made from industrial components that will be available even after a pandemic has started.

#### Biography

I was born and grew up in Kitchener Ontario. I go to Forest Heights Collegiate Institute. I am currently employed part time as a Lifeguard and Swimming Instructor for the city of Kitchener. Some of my hobbies and interests include computers, mountain biking, go-carting, automation and robotics and exploring the outdoors. I enjoy problem solving. I spend my summer at Pointe au Baril boating, fishing, water skiing, and swimming. I volunteer in my community through my workplace by teaching disabled children to swim. I am active in my church youth group by helping at the food bank, roadside cleanup, home repair projects and youth mission trips. I have acquired much experience communicating with people and the community. I would like to go into post secondary education in the industrial automation field.

#### Awards

#### Value

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|---|----------------|
| Engineers Without Borders - Canada Award<br>Sponsor: Engineers Without Borders - Canada | \$1 500        |
| Honourable Mention - Engineering - Senior<br>Sponsor: Youth Science Foundation Canada   | \$100          |
| <b>Total</b>  | <b>\$1 600</b> |