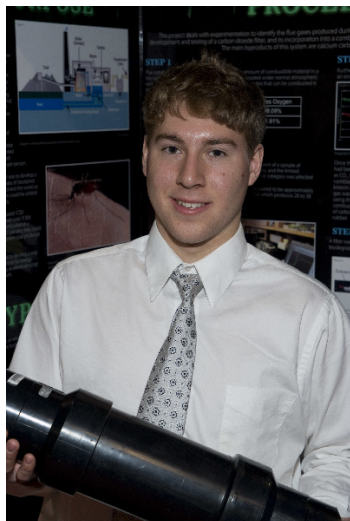


# CWSF 2008 - Ottawa, Ontario



## Darren Rodenhizer

### Clean Energy from Scrap Tire Combustion

**Division:** Health Sciences / Environmental Innovation

**Category:** Senior

**Region:** South Shore

**City:** New Germany, NS

**School:** Park View Education Centre

**Abstract:** Infrared spectrometry analysis was conducted to identify the combustion products of vulcanized rubber. A carbon dioxide filter was then constructed and incorporated into an incinerator system that burns scrap tires to produce thermal energy. The main byproducts of this system are calcium carbonate, water vapor, and tire ash. This system allows scrap tires to be used as a source of clean energy.

#### Biography

I am a member of athletic clubs such as the division one hockey and soccer teams at my school. I am also involved in school clubs such as the Robotics East club, and I am a co-president and founder of the school science club. I am involved in my community in various ways. I have participated in a Curl for Cancer event, in which I raised money through fundraising, and I also canvass for the Canadian Cancer society every year. I am an active member of my church, where I enjoy serving food during meal events. I have also been a 4-H member for nine years. In the summer, I have worked as a swimming instructor, and played summer soccer as a goaltender. I have many hobbies and interests including fishing, model rocketry, art and astronomy. My favourite area of science is physics because I enjoy understanding the most basic interactions of the universe. Next year I plan to attend the University of Toronto where I am enrolled in the Engineering Science program.

#### Awards

#### Value

NSERC Undergraduate Student Research Award - Senior Gold Medallist Sponsor: Natural Sciences and Engineering Research Council of Canada (NSERC)	\$5 625
The University of Western Ontario Scholarship Gold Medallist - \$2000 Entrance Scholarship Sponsor: University of Western Ontario	\$2 000
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
University of Ottawa Entrance Scholarship Senior Gold Medallist - \$20,000 Entrance Scholarship (\$5,000 each year for 4 years) Sponsor: University of Ottawa	\$20 000
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Bronze Medal - Engineering - Senior Sponsor: Youth Science Foundation Canada	\$300
Gold Medal - Environmental Innovation - Senior Sponsor: EnviroExpo, Presented by VIA Rail Canada	\$11 500
<b>Total</b>	<b>\$41 425</b>