

# CWSF 2008 - Ottawa, Ontario



## Glendon Hass

### Hydrogen Fuel Cell: Effect of Altitude on Energy Output

**Division:** Health Sciences / Automotive

**Category:** Intermediate

**Region:** Chinook Country

**City:** Calgary, AB

**School:** Red Deer Lake School

**Abstract:** This project studied the effects of altitude on hydrogen fuel cell energy output. A Proton Exchange Membrane fuel cell was tested at different pressures to simulate altitude. The results showed that increasing atmospheric pressure resulted in increased energy output. Changing temperature did not have an effect on the fuel cell. This research demonstrates that a hydrogen fuel cell can operate almost anywhere in the world.

#### Biography

Glendon Hass is a Grade 9 student who currently attends Red Deer Lake School south of Calgary. Glendon is an honours with distinction student in all five core subjects for the past three years. Last year Glendon attended the National Science Fair in Truro, Nova Scotia and won Bronze in the Earth and Environmental category with The Zeolite Exchange. The year before Glendon went to CWSF in Saguenay, Quebec and won Silver in the Life Sciences category with Rain of Terror. Glendon is an accomplished musician who can play the ukulele, saxophone, and piano. He is an active member within the school community and is involved with the tech crew, the drama production, leadership and basketball. Glendon loves the outdoors and is an avid cook. He hopes to become an engineer when he finishes school.

#### Awards

#### Value

The University of Western Ontario Scholarship Silver Medallist - \$1500 Entrance Scholarship Sponsor: University of Western Ontario	\$1 500
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
Bronze Medal - Engineering - Intermediate Sponsor: Youth Science Foundation Canada	\$300
Silver Medal - Automotive - Intermediate Sponsor: AUTO21	\$700
<b>Total</b>	<b>\$3 500</b>