

# CWSF 2008 - Ottawa, Ontario



## Hydrogen Storage Using Steel Wool

**Division:** International / Automotive

**Category:** Intermediate

**Region:**

**City:** ,

**School:**

**Abstract:** The hypothesis of this project is that the reversible reaction in which  $2\text{Fe} + 3\text{H}_2\text{O}$  is converted into  $\text{Fe}_2\text{O}_3 + 3\text{H}_2$  could be used to store hydrogen. Steam is passed over heated steel wool, releasing hydrogen (which powers a hydrogen fuel cell). The process is reversed by passing hydrogen, produced by solar-powered electrolysis of water, over heated iron oxide.

| Awards  | Value          |
|---|----------------|
| The University of Western Ontario Scholarship<br>Gold Medallist - \$2000 Entrance Scholarship<br>Sponsor: University of Western Ontario | \$2 000        |
| Honourable Mention - Automotive - Intermediate<br>Sponsor: AUTO21   | \$100          |
| Gold Medal - Physical & Mathematical Sciences - Intermediate<br>Sponsor: Encana Corporation   | \$1 500        |
| <b>Total</b>  | <b>\$3 600</b> |