

# CWSF 2012 - Charlottetown, Prince Edward Island



## Jared Trask, Kaitlyn Stockley

### Shedding Light on Microalgae to Biofuel Production in Cold Environments

**Challenge:** Energy

**Category:** Senior

**Region:** Eastern Newfoundland

**City:** Conception Bay South, NL

**School:** Holy Spirit H.S.

**Abstract:** Cultivating microalgae for biofuel production in cold, northern environments has significant potential to augment the world's supply of transportation fuels and reduce greenhouse gas emissions. Two species of microalgae and alternative algal oil extraction methods (ultrasonication and soxhlet extraction) were compared. The results demonstrated it is possible to cultivate microalgae in cold environments using a waste heat source and extract algal oil for biofuel production.

#### Biographies

Jared - In school, my favorite subjects are Chemistry and Mathematics. Having working in a genetics research lab last summer, I had a good working knowledge of experimental methods, but this project took it to a whole new level (to say the least). Based on my high academic achievement this past year, I won a competitive Research-Inspired Student Enrichment (RISE) Award from the Research & Development Corporation to attend the University of Toronto's Da Vinci Engineering Enrichment Program (DEEP) for 4 weeks this summer. I got the inspiration from my project from our AP Bio teacher who briefly mentioned biofuels and I took the idea and went with it...

Kaitlyn - I am a grade 11 student at Holy Spirit High School. I am involved in many different things such as The Duke of Edinburgh Awards Program, Public Speaking (Skills Canada, School and Community Competitions), Volleyball, Tutoring for Tuition...etc. In regards to awards, this year I have won two silver medals for public speaking, a bronze medal in Skills Canada, a Conservation Corporation of Newfoundland and Labrador award, a Biology and Chemistry Award in Regional Science Fair. In the future, I hope to attend Memorial University of Newfoundland, in hopes to become a doctor. The inspiration for our project was a bit of a collaboration; a similar i...

#### Awards

#### Value

Excellence Award - Senior - Bronze Medal Sponsor: Nuclear Waste Management Organization	\$300
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$2 300</b>