

# CWSF 2012 - Charlottetown, Prince Edward Island



## Cathy Tie, Katina Zheng

### Bioethanol Research: Here Today, Here Tomorrow

**Challenge:** Energy

**Category:** Intermediate

**Region:** Peel

**City:** Mississauga, ON

**School:** Glenforest S.S.

**Abstract:** The obliteration of unsustainable fossil fuels escalates the necessity for an alternative energy source. This project investigated the advantages of using phaeophyta, rhodophyta, chlorophyta and Bambusoides in bio-ethanol production through enzymatic hydrolysis followed by fermentation. Each was compared to the current ethanol source, corn, in terms of ethanol yield and cost-effectiveness of production. Results show that benthic marine algae are more efficient in producing ethanol.

### Biographies

Cathy - I'm a Grade 10 student enrolled in the International Baccalaureate Program at Glenforest Secondary School in Mississauga, Ontario. Science has always been my favourite subject at school, and also my escape ? reading a biology book or building simple robots stimulates my curiosity and motivates me to begin my own research.

Aside from my academic achievements, I am the president of Glenforest's Science Club, an executive member of Glenforest's Athletic Council, Volunteering Peel, Finance Committee in the Mayor's Youth Action Council, and, I have been the Grade Representative for two consecutive years. As well, with my undying passion for ...

Katina - I am currently grade 10 pre-IB student at Glenforest Secondary School. I enjoy being involved in a variety of activities, from playing softball, to volunteering at my local hospital. I currently hold leadership positions like my school's DECA executive and am president of Science Club. I have also served as a page in the Ontario Legislature and currently work as a teaching assistant at Kumon. My inspiration for this project came from seeing gas prices continually rise, and constantly hearing about the problem of the impact of burning fossil fuels on the environment. I felt that there should be better, cheaper and more environmentally friendly...

### Awards

### Value

Renewable Energy Award - Intermediate Sponsor: Ontario Power Generation	\$750
Excellence Award - Intermediate - Bronze Medal Sponsor: Nuclear Waste Management Organization	\$300
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$2 050</b>