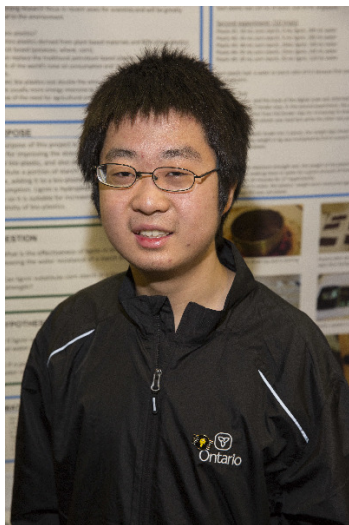


## CWSF 2014 - Windsor, Ontario



### Owen Bai

#### From Lignin to Bioplastics!

**Challenge:** Resources

**Category:** Intermediate

**Region:** Northwestern Ontario

**City:** Thunder Bay, ON

**School:** Sir Winston Churchill C.V.I.

**Abstract:** My project investigates the effectiveness of lignin, an industrial waste, in strengthening and increasing the water-resistivity of a starch based bio-plastic. 80% of bio-plastics are starch based and they cost and use more energy to produce than petroleum plastics. If lignin can substitute a portion of starch in bio-plastics and maintain its strength, it will benefit the environment as fewer resources will be used.

#### Biography

I am currently in grade 10 attending Sir Winston Churchill high school in Thunder Bay. Some of my achievements have been achieving the highest mark in Ontario for grade 5 Conservative piano in 2009, the newspaper carrier of the year in 2011 for the Chronicle Journal, and 2nd place in the Lakehead University math contest. I also volunteer at various places in the city, such as Boys and Girls Club. This is my third year participating in the science fair and second at the CWSF. My advice of other students thinking about doing a project, just do it and you will be amazed at your results!

#### Awards

#### Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	\$300
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$2 300