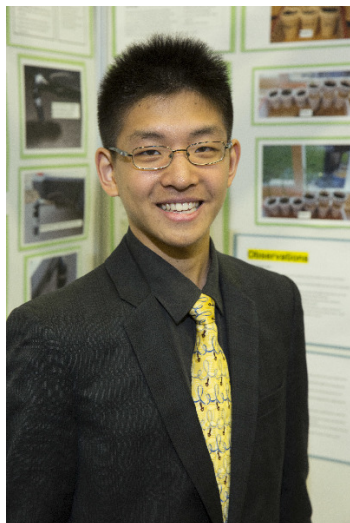


# CWSF 2014 - Windsor, Ontario



## Robby Xu

### Fertilizer from Flue: Carbon Capture and Storage using Activated Charcoal

**Challenge:** Environment

**Category:** Intermediate

**Region:** York

**City:** Markham, ON

**School:** Bayview S.S.

**Abstract:** My project involves the use of activated charcoal as a biodegradable substance that can effectively capture carbon dioxide. Activated charcoal has adsorbent properties that enable it to reach surface areas higher than 1000m<sup>2</sup>/gram, and is also an effective soil additive and nutrient enhancer. The goal of this project is to provide an environmentally friendly transition from a predominantly fossil-fuel reliant society to a renewable-energy future.

#### Biography

Hi! My name is Robby Xu and I am a science, music and film enthusiast in grade 10, from Bayview Secondary School in Richmond Hill, Ontario. My science fair project idea stemmed from my visit to China a few years ago where I witnessed the severity of air pollution. Combined with my passion for solving problems, I took on the challenge of finding a better way of reducing carbon dioxide emissions. With that in mind, I discovered the wonderful adsorbent and soil enhancement properties of activated charcoal?and voila! My project was born. Besides from science, I am an avid musician and pianist, having performed at various venues across the GTA. I also spend time during the weekends playing trombone in the Toronto Youth Symphonic Winds. At school, the engineering, debate, and DECA clubs take up most of my extra-curriculars. Plans I have for future investigations of my project include more trials and continuous refinements on the efficiency of the adsorbent rates. The one major advice I would give for other students looking to do a project is to never stop searching. There will always be new ideas to discover, new experiments to try out, and new problems to solve.

#### Awards

#### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Nuclear Waste Management Organization	\$100
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$1 100</b>