

# CWSF 2014 - Windsor, Ontario



## James Lees

### F.E.R.E.C: A Fuel for the Future

**Challenge:** Energy

**Category:** Intermediate

**Region:** Chignecto East

**City:** Merigomish, NS

**School:** Northumberland Regional High School

**Abstract:** Efficient nuclear fusion has eluded humanity for many decades, however several projects to create efficient fusion persevere, such as ITER and the Tokamak. The F.E.R.E.C (Fusion through Electrostatic Repulsion and Electromagnetic Compression) aims to utilize the technologies of these experiments to create an efficient reactor, creating fusion by compressing a plasma using a magnetic field and an electrostatic grid, so the Lawson Criterion is met.

#### Biography

I'm James Lees, a now three time CWSF finalist, and bronze medalist of the 2013 Lethbridge Fair. I consider myself to be somewhat of a veteran of science fairs (5 Science Fairs), and I have attempted to call science fairs my sport. I started my project for this year titled F.E.R.E.C. : A Fuel for the Future nearly three years ago when I began my research into fusion energy. Since then, I have researched X-Radiation to create fusion, as well as other experimental attempts across the globe at solving the energy crisis by bringing fusion to fruition. My project is a novel approach to creating this fusion, by pairing the technologies of the ITER and IEC reactors. I am a firm believer in fusion energy, and despite contrary claims, I believe that one day our cities and homes will be powered by fusion. In addition to my science fair experiences I have a diverse taste for many academic endeavors such as computer science, writing, visual arts and dramatic arts. Being a future IB student, I encourage all to achieve academic excellence, because the only limit to gaining universal excellence, is your imagination.

#### Awards

#### Value

Australian National Youth Science Forum Award	\$2 500
Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	\$300
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
<b>Total</b>	<b>\$4 800</b>