

# CWSF 2011 - Toronto, Ontario



## Emily May Been, Joshua Scott Thon

### The Fractal Geometry of Blood Clots

**Challenge:** Innovation

**Category:** Senior

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** William Aberhart High School

**Abstract:** This project is a new method of measuring the qualities of a blood clot using fractal analysis, specifically fractal dimension, to put a quantitative number on the complexity of fibrin meshes. The experiment compared a control clot versus a clot formed under sound frequencies, which theoretically should increase complexity. Said experiment proved that fractal dimension is a sensitive tool in measuring minute changes in complexity.

#### Biographies

Emily May - I, Emily Been, am a Grade 11 French immersion student at William Aberhart High School in Calgary, Alberta. I am on the honour roll. I have been taking piano lessons for ten years and hope to take my Grade 9 RCM exam next winter. I dance about eight hours a week; ballet, modern, and jazz. In the summer I volunteer at a horse camp teaching young children to ride. I also take horseback riding lessons throughout the year at this stable. I belong to a complexity science group at my school to study programming and networking. This winter I joined the school diving team, which regardless of my lack of diving experience was a lot of fun. After high S...

Joshua Scott - Joshua Thon is currently a grade eleven student at École William Aberhart High School in Calgary. Since he was three years old he has been enrolled in French immersion, which has lead to a complete fluency in the language. He developed a deep love for science at a young age due to the exposure to science he received from his parents. Josh is one of the captains the world's second largest debate society, another great love of his life. Music plays a large role in Josh's life, as he is the lead Trumpet in both the Advanced Wind Ensemble group and the top jazz band, Abe 1. Josh also participates in various sports, drama, mock trial and enjoys w...

#### Awards

#### Value

Canadian Acoustical Association Award - Senior Sponsor: Canadian Acoustical Association	\$1 000
Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	\$300
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
<b>Total</b>	<b>\$3 300</b>