

# CWSF 2017 - Regina, Saskatchewan



## Lénárd Grossmann

### Swarm Robotics: How Robots Cooperate

**Challenge:** Innovation

**Category:** Intermediate

**Region:** Edmonton

**City:** Edmonton, AB

**School:** Argyll Home School Centre

**Abstract:** Swarm Robotics as a relatively unexplored field in Robotics, deals with a group of robots working together to achieve a common goal. Applying basic principles making up robotic swarms, using a fleet of inexpensive robots, multiple experiments were conducted to observe cooperational behaviour. A practical application was designed were such a swarm of autonomous robots collaborates in a search-and-rescue operation, saving lives in a disaster.

### Biography

I am 13 years old, and have German-Hungarian parents. In 2011 I moved to Alberta and now live in Edmonton. I enjoy playing chess, piano and classical guitar, speak five languages and am interested in architecture and arts (and science, of course). At my first regional science fair in 2014 I won the RASC Astronomy Award for a study on Supernova Remnants, and have been actively participating at the science fairs ever since. I was happy to be part of Team Edmonton for the 2015 CWSF in Fredericton. Modern technologies are advancing rapidly and AI and Robotics are becoming more and more common in our daily lives. As Swarm Robotics is still in its infancy, I decided on that topic for this year's project. For any students who has not yet decided to take part in a science fair, I would only say that this is as much fun as it helps to grow beyond the usual school stuff! In the future, I want to become an environmentally friendly architect (using robots!).

### Awards

### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$1 000</b>