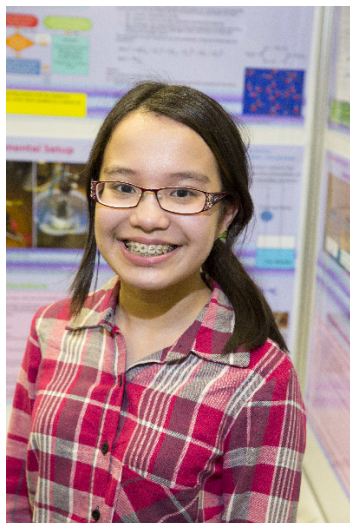


## CWSF 2014 - Windsor, Ontario



### Catherine Beaudin

#### Mass transfer: A treatment for heart disease?

**Challenge:** Health

**Category:** Junior

**Region:** Ottawa

**City:** Ottawa, ON

**School:** College catholique Franco-Ouest

**Abstract:** A medical device which promises to enable a new treatment for heart disease and stroke will be presented. The medical device utilizes a novel mass transfer mechanism in conjunction with biocompatible solvents which are safe for a human patient, to safely reverse the accumulation of arterial plaque. The operating principle will be explained and analysed and the results of initial in-vitro testing provided.

#### Biography

Thirteen year old Catherine Beaudin is currently studying in grade 8 of the International Bachelor program at the College Catholique Franco-Ouest, in Ottawa, Ontario. Catherine has a keen interest in science, mathematics, literature and music. She is also fluent in English, French and Chinese. In 2013 Catherine won a Silver Medal at the Lethbrith CWSF for her work on a high efficiency solar thermal collector as well as a special challenge award for energy. She also recently won a silver medal in an Ottawa wide mathematics as well as public speaking competition. In addition to her academic studies, Catherine has been playing the piano since the age of six and is currently preparing for her Grade 10 RCM exams. She has been the RCM Silver Medalist for Ontario, Kiwanis Grade 7 and 8 provincial finalist, the winner of numerous local competitions including the 2013 ORMTA champion and has been awarded several scholarships. In 2013 Catherine began to study heart disease with the aim of applying engineering principles such as mass transfer to treat atherosclerosis to arrive at her 2014 science fair project. She enjoys doing research with her father. Her ambition is to become a medical researcher or professional musician.

#### Awards

#### Value

Excellence Award - Junior - Silver Medal Sponsor: Youth Science Canada	\$300
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
<b>Total</b>	<b>\$2 300</b>