

## CWSF 2010 - Peterborough, Ontario



### Dennis Brown

#### Jumping Genes: DNA on the Move

**Division:** Earth & Environmental Sciences

**Category:** Junior

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Wilma Hansen Junior High School

**Abstract:** This project studied transposons and their health and medical applications. The mobility of DNA sequences result in gene mutations, which lead to antibiotic resistance and diseases. Insertion of a transposon system into the correct chromosomal site will create a new therapeutic protein to cure disease. Future research on transposons could lead to radio protection, which will help reduce tissue damage from radiology treatment.

#### Biography

My name is Dennis Brown and I am 12 years old. I am in grade 8 at Wilma Hansen Junior High School in Calgary, Alberta. At school, I am a student secretary, make morning announcements, and was captain of the school's basketball team. I really enjoy sports, especially snowboarding, basketball, and riding my unicycle! I have been training in Aikido martial arts since I was 5 years old, and have achieved a level of black belt. Since I was very young, I have been very involved in volunteering in my community, and am honoured to be the recipient of the 2006 Alberta Great Kids Award and the 2007 Stars of Alberta Volunteer Award. My favourite volunteering experience has been visiting with seniors. This is my fifth year studying DNA? I have extracted DNA from a strawberry, learned how police use DNA to identify someone, studied DNA knots and the topoisomerase enzyme, researched drug interaction with tumour cells, and finally jumping genes. This is my first year attending the Canada Wide Science Fair. In the future, I hope to study dentistry.

Youth Science Canada  
PO Box 297  
Pickering ON L1V 2R4  
[www.youthscience.ca](http://www.youthscience.ca) / [info@youthscience.ca](mailto:info@youthscience.ca)  
416-341-0040