

# CWSF 2010 - Peterborough, Ontario



## Manel Zeghal, Devka Andhotra

### Modelling Canadians' Lipid Profile Using Artificial Neural Networks

**Division:** International

**Category:** Intermediate

**Region:** Ottawa

**City:** Ottawa, ON

**School:** Colonel By S.S.

**Abstract:** The artificial neural network predicted the lipid profile (high-density lipoprotein, low-density lipoprotein and triglycerides) with an average error lower than 3% and showed that age (especially women), excess weight, diets rich in animal protein and saturated fats influence negatively the lipid profile. Monounsaturated fats (MUFA) and polyunsaturated (PUFA) fats are the key to improve the lipid profile with a superior impact of MUFA over PUFA.

#### Biographies

Manel - "I am not discouraged, because every wrong attempt discarded is another step forward"- Thomas Alva Edison. Manel bases this quote on every aspect of her daily life in order to succeed. Ms. Manel Zeghal is presently in grade nine and attends Colonel By Secondary School in Ottawa. This is Manel's third year attending the Regional Science Fair, and her second year going to the CWSF. At school, she continually maintains a 90+ average, currently enrolled in the pre-international baccalaureate (IB) program and an active member of several associations and clubs. She is a member of the World Tae-kwon-do Federation and working towards becoming a...

Devka - My name is Devka Andhotra. I am currently in grade 9 and go to Colonel By Secondary School. I am 14 years old. I love to read and enjoy playing many sports such as, soccer, volleyball and football. My favourite subjects are Math and Science. I plan to continue my studies in Science.

#### Awards

#### Value

Honourable Mention - Health Sciences - Intermediate Sponsor: Canadian Institutes of Health Research	\$100
<b>Total</b>	<b>\$100</b>