

CWSF 2011 - Toronto, Ontario



Maria-Christina Sorbo-Mayrand

Knee Tension

Challenge: Innovation

Category: Senior

Region: Montreal

City: Montreal, QC

School: Villa Maria

Abstract: This experiment determined that changing the angle at which the knee is bent affects the strain put on the quadriceps muscle, tendon, and knee joint. The experiment combined the anatomy of the leg and knee, physics (Hooke's Law), and mathematics (the design and construction of the knee model).

Biography

I am a highly motivated high school student. I am presently enrolled in the enriched science program. I am a distinction student and have been awarded the "The Board of Directors' Award ? Highest Academic Achievement". I have participated in two Regional and two Super Expo-Science Fairs. My interests include ballroom dancing, writing, music, sports and languages. I hold a Silver Level IV Diploma (with distinction) in ballroom dance and I won first place in six dances in last year's international dance La Classique du Québec competition. I won the Commonwealth Society ? International Writing Competition - Distinction at the international level. I have completed my Secondary IV level music exam ? Honours and I won the Bryan Rabiza scholarship. I am a member of the track and field as well as the environment club at my School. I speak three languages, English, French, Italian and I am learning a fourth language, Spanish. I have a passion for helping others. I am a volunteer tutor in Mathematics, English and French at local grade schools and I am a volunteer at the Cancer Research Society. I play violin at community centers for elderly people.

Awards

Value

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
Total	\$2 300