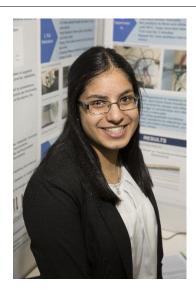




CWSF 2019 - Fredericton, New Brunswick



Anika Garg

Developing a Self-Sensing Actuator for Use in Wearable Rehabilitation Devices

Challenge: Innovation Category: Senior

Region: Thames Valley
City: London, ON
School: A.B. Lucas S.S.

Abstract: This project examined the relationship between temperature, resistance,

and strain in twisted and coiled soft actuators (TCA), made from silver-plated nylon fibre. This was done to develop a self-sensing

mechanism for viable use of these artificial muscles in biomimetic systems

such as robots and powered exoskeletons.

Biography

My name is Anika Garg and I am a grade 11 student at A.B. Lucas Secondary School in London, Ontario. At school, I am involved with DECA, science olympics, reach for the top, and the swim team. I also enjoy music and play piano and clarinet. I have a strong interest in science and plan on pursuing a career in a STEM field. This is my third time participating in the Thames Valley Science and Engineering Fair, and my second time at CWSF. I'm really grateful for this opportunity and would encourage anyone interested in science to try it out!

Awards	Value
Excellence Award - Senior - Bronze Medal	
Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship	\$1 000
Senior Bronze Medallist - \$1000 Entrance Scholarship	
Sponsor: University of Ottawa	
Western University Scholarship	\$1 000
Bronze Medallist - \$1000 Entrance Scholarship	
Sponsor: Western University	
Total	\$2 000



