

# CWSF 2014 - Windsor, Ontario



## Devika Vishwanath

### Free-Space Laser Communication

**Challenge:** Information

**Category:** Intermediate

**Region:** South Fraser

**City:** Delta, BC

**School:** Seaquam Secondary

**Abstract:** Free-space laser communication uses lasers to transmit data without the use of media, such as fibre optic cables. This project experimented on finding an optimum design for a free-space laser communication system. Analog signals were superimposed on a carrier laser beam using amplitude modulation. The beam was transmitted through free-space and demodulated at the receiving end. Minimum signal distortion was the prime consideration.

#### Biography

My name is Devika Vishwanath. I am in grade ten at Seaquam Secondary in Delta, BC. This year it is my third time participating in the CWSF. I find Math and Science extremely interesting and I especially love Physics. My other loves are music and dance. I play the piano and the flute, which gave me opportunities to play in my school band and in my community orchestra. I was the music award winner in my elementary school as well. I have been learning Indian classical dance for ten years now and I do stage performances. My other interests include hiking and reading. I have also been in student council and continuously volunteer for the community. The secret of doing a great science project is blending your crazy ideas with systematic methods. Do not just solve your problems; solve them in ways that have never been tried before.

#### Awards

#### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Nuclear Waste Management Organization	\$100
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 100