

# CWSF 2014 - Windsor, Ontario



## Maya Burhanpurkar

### The Time-Integral of Distance: Uncovering A New Property of Fundamental Physics

**Challenge:** Discovery

**Category:** Intermediate

**Region:** Simcoe County

**City:** Oro-Medonte, ON

**School:** Barrie North Collegiate Institute

**Abstract:** The discovery of fundamental properties of nature like the Higgs boson represents important and rare milestones in science. Similarly, this project marks the discovery of a new fundamental property of physics, specifically the time-integral of distance, which can be theoretically calculated, but has never before been detected in the real world. This has profound applications ranging from physics to avionics.

#### Biography

Maya is a passionate Grade 10 student, scientist, entrepreneur and volunteer. She loves applying STEM in creative ways to solve challenging problems. Her past scientific work has ranged from developing an "intelligent" antibiotic to discovering new properties of amyloid- $\beta$  inhibitors to discovering a new aspect of fundamental physics. For her work, Maya won the Junior Platinum and other awards at the 2011/2012 CWSF, represented Canada at the 2013 ISEF, and was one of the global semi-finalists for the 2013 GSF. She was also named one of Canada's Top 20 Under 20 and Ontario's Junior Citizen of the Year and was presented with the Queen Elizabeth II Diamond Jubilee medal. Maya is the President of the national non-profit Science Expo Canada, an editor with the Canadian Young Scientist Journal, and a member of the Education Minister's Student Advisory Council. Currently, she is filming a documentary about Arctic climate change and is launching a tech-startup that provides emergency response technology to developing regions. At school, Maya is the Student Council and DECA club President, a member of the debate team, her school's Student Senate representative, and her school board's Student Trustee. In her spare time, Maya enjoys playing the piano and skiing.

#### Awards

#### Value

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|---|-----------------|
| The Actuarial Foundation of Canada Award - Intermediate   | \$750           |
| Challenge Award - Discovery - Intermediate<br>Sponsor: Youth Science Canada   | \$750           |
| Excellence Award - Intermediate - Gold Medal<br>Sponsor: Youth Science Canada   | \$700           |
| Western University Scholarship<br>Gold Medallist - \$4000 Entrance Scholarship<br>Sponsor: Western University                       | \$4 000         |
| University of Windsor Entrance Scholarship<br>Grand Award Recipient - \$5000 Entrance Scholarship<br>Sponsor: University of Windsor | \$5 000         |
| Platinum Award - Best Intermediate Project<br>Sponsor: BlackBerry   | \$5 000         |
| <b>Total</b>  | <b>\$16 200</b> |