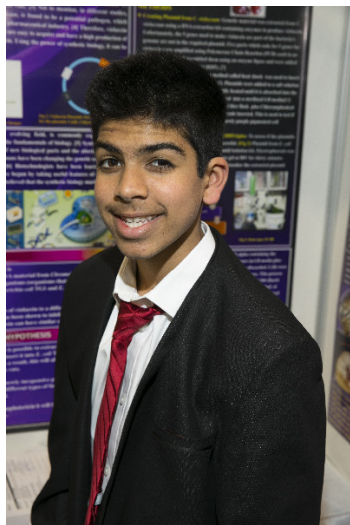


# CWSF 2017 - Regina, Saskatchewan



## Harry Parmar

### Viola-Bac; Power of Synthetic Biology in Real World

**Challenge:** Innovation

**Category:** Junior

**Region:** York

**City:** Thornhill, ON

**School:** Bakersfield P.S.

**Abstract:** Violacein, released by *Chromobacterium violaceum* has been shown to have different anticancer and antioxidant effects. The problem is, it costs over \$395,000 to produce per gram due to a slow growth rate, and more. By transferring genetic material from its primary producer using synthetic biology, to a non-pathogenic strain of *E.coli*, violacein was much cheaper to produce. Later, it was tested on fungus.

#### Biography

My name is Harry Parmar, and I am a grade 8 student at Bakersfield P.S. At school, I enjoy literacy and math. I also play on a basketball team in Richmondhill, and I like playing the piano. Outside of school, I like discovering answers to questions that aren't usually asked. One topic that interested me the most was synthetic biology. By inserting new genetic code into a new organism to create desirable features, synthetic biology can help change the world. I was first introduced to the topic by a Ph.D. student at Ryerson University. He explained the benefits of synthetic biology and how many may call it GMO in a negative way. By following correct procedures, it can impact our world beneficially. My project is using a newly discovered expensive drug and making it cheaper to produce using the power of synthetic biology. In the future, I plan on conducting long-term studies of this drug for new useful research. Some great advice I learned from my mentor, is never to give up. Even when you can't find the answer, continue to fail until you succeed.

#### Awards

#### Value

Youth Can Innovate Awards - Junior Sponsor: The Gwyn Morgan and Patricia Trottier Foundation	\$500
Excellence Award - Junior - Bronze Medal Sponsor: Youth Science Canada	
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$1 500</b>