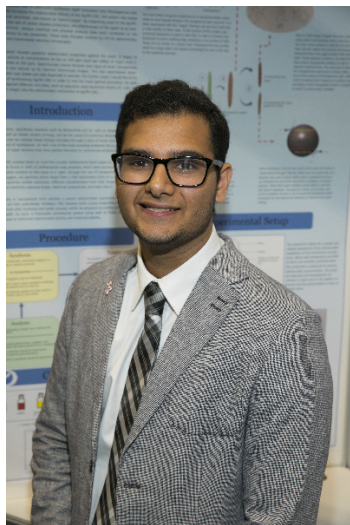


# CWSF 2017 - Regina, Saskatchewan



## Danish Baig

### Bio-friendly Antimicrobial Replacement to 2017 FDA Banned Drugs: Silver NP/CNC

**Challenge:** Innovation

**Category:** Senior

**Region:** Waterloo-Wellington

**City:** Waterloo, ON

**School:** Waterloo Collegiate Institute

**Abstract:** The goal of this project was to develop a stable antimicrobial system offering an advantage over current commercial systems in the form of silver nanoparticles on cellulose nanocrystals (CNC). The FDA recently, just in 2017, banned 19 drugs found in antibacterial soaps for environmental concerns. I concluded that my synthesized system offers stability and the same antimicrobial performance, allowing it to be a replacement chemical.

#### Biography

My name is Danish Baig and I live in Waterloo, Ontario. I attend Waterloo Collegiate Institute, a school that in our region is known for excellent math and science programs. Apart from working hard in classes, I enjoy playing football on the city and school team as well as rocking out with my cello in the school orchestra. My inspiration for this project came from discussions I had with my mentors, Fatima Awan and Dr. Michael Tam. I learned that the best way to develop an idea is to consider some criteria you want to meet first. I had to ask myself, can it be commercialized? Am I doing something new? Is it "cool"? And finally, am I interested in what I'm doing? As for advice I would give students considering a project: it doesn't matter if you fail because you've simply found a way that doesn't work. Trial and error are the bread and butter of scientists so do not be afraid to mess up. However, you should understand that time is against you and you need to make the most of it by practicing thorough organization along with planning.

#### Awards

#### Value

Excellence Award - Senior - Gold Medal Sponsor: Youth Science Canada	\$250
Dalhousie University Faculty of Science Entrance Scholarship Senior Gold Medallist - \$5000 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$5 000
UBC Science (Vancouver) Entrance Award Senior Gold Medallist - \$4000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$4 000
University of Manitoba Entrance Scholarship Senior Gold Medallist - \$5000 Entrance Scholarship Sponsor: University of Manitoba	\$5 000
University of Ottawa Entrance Scholarship Senior Gold Medallist - \$4,000 Entrance Scholarship Sponsor: University of Ottawa	\$4 000
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
<b>Total</b>	<b>\$22 250</b>