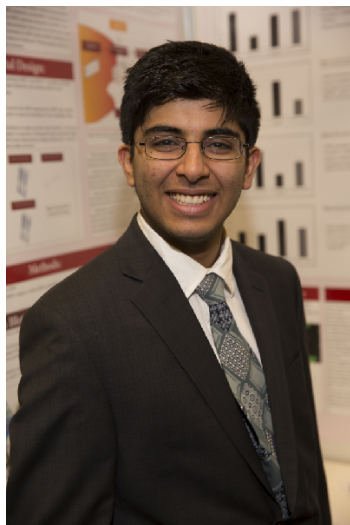


# CWSF 2016 - Montreal, Quebec



## Ansh Goyal

### LRRK2 controls alpha-synuclein levels via microRNAs in Parkinson's disease

**Challenge:** Health

**Category:** Senior

**Region:** Ottawa

**City:** Ottawa, ON

**School:** Colonel By S.S.

**Abstract:** Lewy bodies are protein aggregates, mostly composed of alpha-synuclein, that are related to the death of dopaminergic neurons in Parkinson's disease (PD) patients. This project builds on existing cancer and PD research to discover an alternate pathway regulating alpha-synuclein. By using siRNA and miRNA inhibitors, it was found that decreased gene expression of LRRK2 downregulates microRNA-7 levels, which in turn upregulates alpha-synuclein.

#### Biography

Hi! My name is Ansh Goyal, and I am a Grade 12 International Baccalaureate student studying at Colonel By Secondary School in Ottawa, Ontario. I am an avid photographer, and enjoy nature photography. I also love tennis, and play every moment I get (and yes, I support Federer!). In my community, I volunteer with the Ottawa Paramedic Service helping to providing medical first aid at events across the city, and am also a founding member of a youth-run developing non-profit, Castlestone, that hopes to eliminate poverty and homelessness in Ottawa-Gatineau. Nevertheless, I am still a scientist at heart. After my grandmother's diagnosis with Parkinson's disease, I found myself reading about the disease from the scientific community's perspective. Eventually, I formed my own ideas and was able to implement them at the University of Ottawa. In the future, I hope to continue to study microRNA ? I truly believe that microRNA could lead to a new revolution in cellular medicine. To other young scientists, I advise you to simply read. Find a topic that captivates you, and just keep going. You're bound to discover discrepancies and ask questions- questions that can lead to the "next big thing". Cheers!

#### Awards

#### Value

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