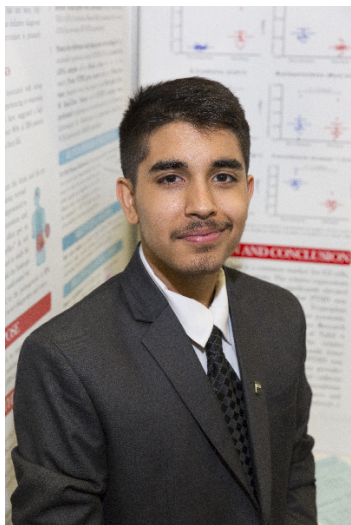


## CWSF 2018 - Ottawa, Ontario



### Rohan Sethi

#### The Brain-Gut Axis: IBS-Related Gene Expression in PTSD-Induced Rat Models

**Challenge:** Health

**Category:** Intermediate

**Region:** Manitoba Schools Science Symposium

**City:** Winnipeg, MB

**School:** St. Paul's High School

**Abstract:** IBS is a debilitating gastrointestinal disorder with no definitive diagnostics or cure. This project investigates the effects of PTSD on expression of IBS-related genetic markers in rat models. The subsequent findings establish a neuroenteric relationship between stress and IBS, and reinforce the brain-gut axis. This study could be used to better understand the pathogenesis of IBS, and facilitate development of novel diagnostic measures and therapeutics.

#### Biography

My name is Rohan Sethi. I am a Grade 10 student at St. Paul's High School in Winnipeg, Manitoba. I have a passion for swimming and playing soccer, and recently became a district-level referee. In my spare time, I do volunteer work around the community. Science has always been one of my favourite subjects. Having participated in science fairs at the regional level since I was in Grade 4, I have thoroughly enjoyed the experiences. Irritable bowel syndrome (IBS) is a chronic and debilitating gastrointestinal disorder with a worldwide prevalence of 10-15%. A poor understanding of how IBS develops in individuals has resulted in a lack of definitive diagnostics and treatment. It is well-known that stressful situations can induce sensations of "butterflies" in our stomachs. This common rationale was used to investigate the effects of PTSD on IBS, with an aim to establish a 'brain-gut axis.' This could lead to the development of novel diagnostic measures and therapeutics for IBS. I am thankful for the opportunity to present my project and represent my province at the CWSF this year. I would strongly encourage students to pursue their dreams through perseverance and hard work, and discover a world of endless opportunities.

Youth Science Canada  
PO Box 297  
Pickering ON L1V 2R4  
[www.youthscience.ca](http://www.youthscience.ca) / [info@youthscience.ca](mailto:info@youthscience.ca)  
416-341-0040