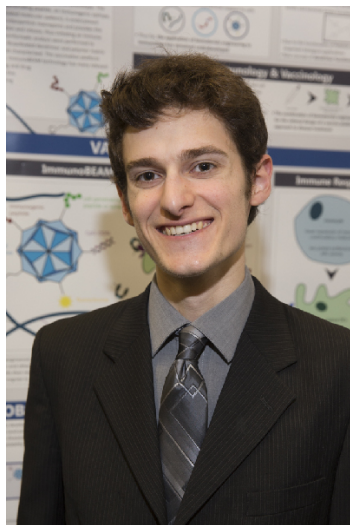


# CWSF 2016 - Montreal, Quebec



## Amit Scheer

### ImmunoBEAM: A Novel Biomaterial Conjugate as a Therapeutic Vaccination Platform

**Challenge:** Health

**Category:** Senior

**Region:** Ottawa

**City:** Ottawa, ON

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

**Abstract:** Current therapeutic vaccinations are limited in their efficacy by inefficient delivery and low bioavailability. A novel biomaterial matrix and poly(amidoamine) (PAMAM) dendrimer conjugate, ImmunoBEAM, was developed as a peptide vaccination platform to overcome these challenges and enhance therapeutic effects against diseases including cancer. Vaccination platform components were synthesized and characterized, and therapeutic efficacy was demonstrated in cell-based assays. This platform

#### Biography

My name is Amit Scheer, and I am a Grade 12 student at Colonel By Secondary School in Ottawa, Canada. I have been very involved in science throughout high school. For my nanobiotechnology research projects, I have won national and international awards from the Google Science Fair, the Sanofi Biogenius Canada, the Canada-Wide Science Fair (CWSF), and the Intel International Science and Engineering Fair (ISEF). I am currently developing a novel scaffold vaccination platform at the National Research Council Canada (NRC) and the University of Ottawa. In addition, I am actively promoting a passion for science among youth, as student leader and national Ambassador Program Coordinator for the Foundation for Student Science and Technology (FSST). In the future, I plan to study immunology and chemistry to eventually become a scientist in the related disciplines. I continue to be inspired by several Nobel laureates who I was thrilled to meet over the past two years at ISEF, including J. Michael Bishop and Harry Kroto. Pursuing research throughout high school was an experience that has profoundly influenced my character, and I plan to continue developing my innovations, which I am currently working to patent and publish, throughout my undergraduate degree and beyond.

#### Awards

#### Value

The Manning Innovation Achievement Award - Senior Sponsor: Ernest C. Manning Awards Foundation	\$500
The Manning Innovation Achievement Award and \$4000 Manning Young Canadian Innovation Award and also receive an additional \$3000 towards their post-secondary education. Sponsor: Ernest C. Manning Awards Foundation	\$4 000
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>\$26 750</b>