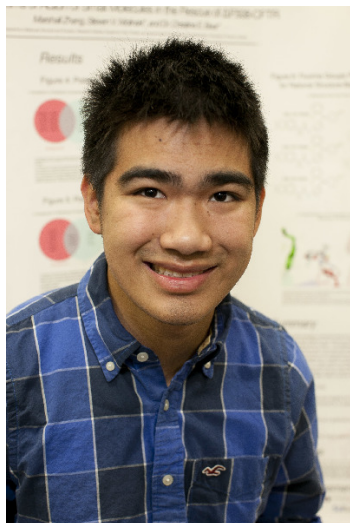


# CWSF 2011 - Toronto, Ontario



## Marshall Zhang

### Mechanisms of Action of Small Molecules in the Rescue of ?F508-CFTR

**Challenge:** Health

**Category:** Senior

**Region:** York

**City:** Markham, ON

**School:** Bayview S.S.

**Abstract:** The deletion of phenylalanine at position 508 (F508del) in the cystic fibrosis transmembrane conductance regulator (CFTR) protein is the most common mutation to result in cystic fibrosis, the most common fatal genetic disease among Caucasians. This study elucidates the mechanisms of action of two small molecules in their correction of this basic molecular defect and builds a foundation for future structure-based drug design.

#### Biography

Hi! I'm a grade 11 International Baccalaureate student attending Bayview Secondary School. I've been an active member of the Bayview DECA chapter for three years, and was invited to the 2011 International Career Development Conference after placing 2nd at Provincials. Outside of school, I'm involved with Kids Help Phone, having acted as a Student Ambassador, Conference Leader and Conference Director over the last 2 years, and will be chairing the Student Ambassador Council for 2011/2012. I play baritone sax in the Toronto Youth Symphonic Winds, and conduct research on cystic fibrosis at the Cystic Fibrosis Research Center of SickKids Hospital. Just before CWSF, I will be traveling to Ottawa to present my findings to the National Research Council as part of the Sanofi-Aventis BioTalent Challenge. In the future, I hope to be able to combine my interest in science with business and entrepreneurship to get onto the startup biotech company scene.

#### Awards

#### Value

Cangene Corporation Award - Senior Sponsor: Cangene Corporation	\$1 000
Excellence Award - Senior - Gold Medal Sponsor: Youth Science Canada	\$1 500
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
The University of Western Ontario Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: University of Western Ontario	\$4 000
University of Ottawa Entrance Scholarship Senior Gold Medallist - \$4,000 Entrance Scholarship Sponsor: University of Ottawa	\$4 000
<b>Total</b>	<b>\$24 500</b>