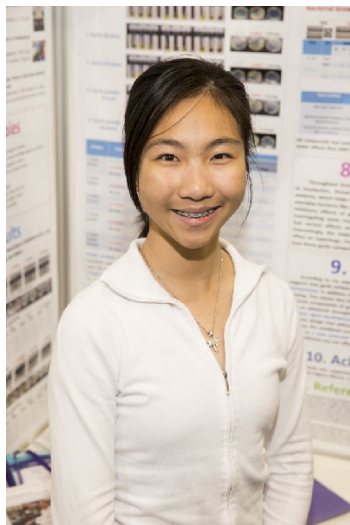


# CWSF 2015 - Fredericton, New Brunswick



## Lilian Zhang

### What Garlic Components Can Inhibit Superbugs?

**Challenge:** Health

**Category:** Intermediate

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Tom Baines Junior High School

**Abstract:** I screened natural plants and spices for antibacterial activity and found that garlic not only inhibited everyday bacteria, but also superbugs. Their inhibitory effect was very stable. Investigating major garlic components revealed that they had variant effects and mixed compounds had an advanced synergistic effect on superbugs. This suggests that combined garlic compounds can be studied as a new potential antibiotic agent to combat superbugs.

#### Biography

I am Lilian Zhang, a Grade 9 student at Tom Baines Junior High School, Calgary, Alberta, Canada. Superbug bacteria are a rising issue causing many deaths across the world. This year, I have done a project on testing which garlic components could inhibit superbugs. I have participated in every Science Fair event since Grade Five, and have received medals and major stage awards each year, including: 2011- Gold Medal; 2012- Gold Medal, Calgary West Central Primary Care Network Health Living Elementary Award; 2013- Gold Medal, CYSF Director's Award, CWSF Alternate Award; 2014- Silver Medal; 2015- Gold Medal, CYSF Int./Sr. Life Science or Medical Award, Alberta Innovates- Health Solution Award of Excellence. I have explored various health topics like natural preservatives, superbugs, Cancer, and Alzheimer's disease. Besides having an interest in Science, I also take dance/piano lessons, and participate in my school's Debate team. I won Champion in Calgary Lion's Club Talent and Speech Competitions; Calgary Kiwanis Music Festival Piano Gold Certificates; third in Debate Tournaments, etc. Being active in community volunteering, I participate in activities organized by the City of Calgary, the Government of Alberta, Alberta Health Services, Calgary Chinese Elderly Citizens' Association, ...

#### Awards

#### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 000