

# CWSF 2015 - Fredericton, New Brunswick



## Nicholas Paun

### Chemlogic: A Logic Programming Chemistry System (2ed.)

**Challenge:** Innovation

**Category:** Senior

**Region:** West Kootenay & Boundary

**City:** Slocan Park, BC

**School:** Mount Sentinel Secondary

**Abstract:** Chemlogic is a logic program for computer chemistry that performs stoichiometric calculations, balances and completes equations, and converts between formulas and names. The program has applications in education, particularly as a study tool. Features are implemented using a chemical information database, linear equation solver, and grammatical rules. Guidance is provided for resolving errors in user input. Chemlogic is available on Android and the Web.

#### Biography

I am a graduating student at Mount Sentinel Secondary School in South Slocan, BC. I am passionate about science, and computer science in particular, and am very interested in research. I plan to obtain a degree in Computer Science or Software Engineering, and to pursue graduate studies. This year, I received the BC Innovation Council Scholarship and was nominated for the Schulich Leaders Scholarship. Hiking in the beautiful mountains of the Kootenays is one of my favorite activities. The original version of my project, Chemlogic, was an experimental program I developed three years ago to simplify my Science homework. I decided to extend the project and study computer science, by analyzing algorithms and developing new features. Last year, I received a Bronze Excellence Award at the CWSF. I hope to develop Chemlogic further, but I am also interested in creating new projects, focusing on the applications of computer science to other scientific fields. My only advice is to find a problem that interests you, and solve it in a unique way. You never know where your research and ideas may take you. My project developed far beyond my original expectations. I'm very excited to be attending the CWSF in Fredericton.

#### Awards

#### Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
University of New Brunswick Entrance Scholarship Silver Medallist - \$2500 Entrance Scholarship Sponsor: University of New Brunswick	\$2 500
<b>Total</b>	<b>\$11 000</b>