

# CWSF 2009 - Winnipeg, Manitoba



## Ryan Peng

### High Speed Flash Exposure with Compact Digital Cameras

**Division:** Health Sciences / None

**Category:** Senior

**Region:** Saskatoon

**City:** Saskatoon, SK

**School:** Centennial Collegiate

**Abstract:** A technique was developed to allow the use of external flash at shutter speeds higher than the maximum sync speed. A method to use camera to measure flash was developed by using a grey card. A mathematical model for the clipped flash output was developed by integrating flash discharge curve and validated by experimental data. A computer program was created to calculate correct flash exposure.

### Biography

Ryan Peng is a Grade 11 student at Centennial Collegiate. He enjoys participating in science fairs and math competitions. He has been invited to write many national and international math competitions. He has won the national champion title six times. Ryan is the defending champion for four years in a row at the annual Saskatchewan Math Challenge. He actively participates in math clubs and helps other students to achieve their goals. During the summer, he attends math camps to enrich his mathematical knowledge, and volunteers at the annual Sci-Fi science camp to help elementary school students to do hands-on science. Throughout the school year, he is the SMARTS school correspondent which is a national network of youth helping youth in science, technology, engineering, and math. In addition to working on his science projects, he participates in research at the Canadian Light Source. In his spare time, he likes to explore computer programming, play the piano, read books and literature, play table tennis, and hang out with friends. At school, he is involved in science club, debate, model UN, and chess club. Ryan has won several school academic awards, including Top Ten Overall.

### Awards

### Value

The Manning Innovation Achievement Award Sponsor: Ernest C. Manning Awards Foundation	\$500
The Manning Innovation Achievement Award and \$4000 Manning Young Canadian Innovation Award Sponsor: Ernest C. Manning Awards Foundation	\$4 000
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 000
The University of Western Ontario Scholarship Silver Medallist - \$1500 Entrance Scholarship Sponsor: University of Western Ontario	\$1 500
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$3000 Entrance Scholarship Sponsor: University of Ottawa	\$3 000
Silver Medal - Engineering - Senior Sponsor: Youth Science Canada	\$700
<b>Total</b>	<b>\$11 700</b>