CONGRATULATIONS

2017 Prize Winners / Gagnants des Prix de 2017

University Prize Exam Results 2017 – *Résultats de l'examen du prix universitaire 2017*

This year, 74 students from 16 post-secondary institutions completed the exam held on February 7, 2017 which was run by representatives from the University of Toronto / Cette année, 74 étudiants de 16 universités ont participé au concours universitaire qui a eu lieu le 7 février 2017 et qui a été administré par l'Université de Toronto.

Miles Cranmer	**First prize / *Premier prix***	**McGill University**
Andrew Gomes	**Second prize / *Deuxième prix***	**University of Toronto**
Hiromitsu Sawaoka	**Third prize / *Troisième prix***	**University of Toronto**

4. Chris Gustin	Queen's University	8. Jomar Sastrillo	Simon Fraser University
5. Sam Abernathy	Queen's University	9. Gavin Crowder	Queen's University
6. Beichong Lou	University of Toronto	10. Samuel Leutheusser	University of British Columbia
7. Matthew Basso	UBCO		

CAP High School Prize Exam – *l'examen du secondaire ou collégial de l'ACP*
2017 National Winners – *Gagnants 2017 à l'échelle nationale*

First prize / *Premier prix*	Guo Ming Zheng, Richmond High School, Richmond Hill, ON
Second prize / *Deuxième prix*	Ming Yange Ye, Bayview Secondary, Richmond Hill, ON
Third prize / *Troisième prix*	Pedram Amani, West Vancouver Secondary, West Vancouver, BC

2017 Canada-wide Science Fair – *2017 Expo-sciences pan Canadienne*

The 2017 Canada-wide Science Fair was held from May 15-20 in Regina, SK. This year the CAP, though the CAP Foundation, sponsored prizes at each of the "senior", "intermediate" and "junior" levels. Congratulations to the following recipients, pictured below.:

Senior CAP Physics Prize – Marin Schultz, Lethbridge, Alberta

Project: Novel Prosthetic AutoGrasp Control System and Human-Prosthetic Interface

Biography: Marin Schultz loves building robots and computer programming. Ever since he realized first-hand that inventions can have a real-world impact and help people, he has been inspired to build prosthetics in particular. He has won several national and international awards for his inventions including

From left to right: Marin Schultz, Melody Cheng, Daniel Kornylo (Presenter: Dr. Ben Newling-Youth Science Canada, National Judging Committee).

previous CWSFs. When not inventing, Marin's favourite thing to do is read philosophy, history and poetry. His interest in advanced prosthetic design stems from his desire to help a one-handed friend from Lethbridge who visited his 2012 science fair project involving EEG sensors and robotics. He hopes to inspire other students to learn, and to be excited and passionate about helping others through science

Abstract: This project proposes a novel AutoGrasp control system that allows a prosthesis to autonomously grasp "Smart Objects" thereby increasing the complexity of the movements achievable with simple sensory input. It further proposes a human-prosthetic interface, in the form of a touchscreen, that functions as visual sensory feedback. Underactuated prosthetic fingers were developed that exhibit self-adaptive behavior and enable the prosthetic to grasp objects reliably.

Intermediate CAP Physics Prize – Melody Cheng, Victoria, BC

Project: A New Phase of Water: Is this measurable with surface tension?

Biography: Melody Cheng wanted to expand her knowledge about water. Her project was inspired by an article she read about scientists that found evidence of a new phase of water (published in November 2016). She hopes that in the future we as human beings will have the opportunity to explore and understand the topic fully. For Melody, the essential thing for doing a science project is an open, passionate heart towards the subject.

Abstract: Recently, scientists discovered a new phase of liquid water, where a difference in hydrogen bonding exists from 40 to 60C. I wanted to know if this phenomenon could be observed in different concentrations of magnesium chloride and sodium chloride. I measured the surface tension of water by analyzing the contact angle in a droplet and was able to measure a variation in the crossover temperature.

Junior CAP Physics Prize – Daniel Kornylo, Gold River, BC

Project: High School Voltage

Biography: Daniel Kornylo is a science enthusiast, a figure skater, and a grade 8 student at Gold River Secondary School. He lives in a remote location on Vancouver Island where there is no cellular service. Initially, he wanted to do a project on the repair of his classroom Van de Graaff generator. As he learned more about electrostatic generators, he found out that there had been other types, such as the Pelletron and the Laddertron, which have been used in particle accelerators. This caused him to wonder if it would be possible to build a classroom electrostatic generator using a Laddertron style of belt. His advice to students that are thinking of doing a project like this is to first make sure they are interested in the subject area and that they never give up.

Abstract: Following the repair and refit of a vintage Van de Graaff generator, a hybrid educational electrostatic generator was constructed. This device uses a Laddertron style of charge transport system within the familiar Van de Graaff framework. As an added educational feature, a remote control allows students to vary the inducing voltage, and its duty cycle, as well as the belt speed

The 2018 Canada-Wide Science Fair will be held in Ottawa, ON.