

CONGRATULATIONS / FÉLICITATIONS!

2022 STUDENT PRIZE WINNERS / GAGNANTS DES PRIX POUR
LES ÉTUDIANT(E)S 20222022 UNIVERSITY PRIZE EXAM RESULTS / RÉSULTATS DE L'EXAMEN DU
PRIX UNIVERSITAIRE 2022

The 2022 examination was held virtually on March 22 and was coordinated by the University Prize Exam Committee, chaired by Christine Kraus, SNOLAB. The exam was written by 57 students from 18 universities/colleges.

Cette année, 57 étudiants de 18 universités ont participé au concours universitaire. L'examen s'est déroulé virtuellement le 22 mars et qui était administré par le comité d'examen du prix universitaire, présidé par Christine Krause, SNOLAB.

First prize/Premier prix	Ryohei Weil	University of British Columbia
Second prize/Deuxième prix	Samuel Li	University of Toronto
Third prize/Troisième prix (tie)	Amirali Atrli	University of Toronto
Third prize/Troisième prix (tie)	Qiu Shi Wang	McGill University

5. Frédéric Duong, McGill University
6. (tie) Adam Prus-Czarnecki, University of Alberta
6. (tie) Benjamin Lamoureux, University of Alberta

6. (tie) Tony An, University of Toronto
9. Kevin Lin, University of British Columbia
10. (tie) Emily Mellors, University of British Columbia Okanagan
10. (tie) Sean Lan, University of British Columbia

2022 CAP HIGH SCHOOL-CÉGEP PRIZE EXAM NATIONAL WINNERS /
L'EXAMEN DU SECONDAIRE OU COLLÉGIAL DE L'ACP – GAGNANTS À
L'ÉCHELLE NATIONALE 2022

First prize/Premier prix	Victor Gao	Bayview Secondary School, ON
Second prize/Deuxième prix	Connor Wong	St. George's School, BC
Third prize/Troisième prix	Yuehan Hu	Bayview Secondary School, ON

2022 CANADA-WIDE SCIENCE FAIR PRIZES / PRIX DE L'EXPO-SCIENCES PANCANADIENNE 2022

The 2022 Canada-Wide Science Fair was held virtually from May 16-20. This year the CAP sponsored one prize in the Senior category.



Figure 1. 2022 CWSF prize winner Zachary Ireland, Winnipeg MB.

SENIOR CAP PHYSICS PRIZE – ZACHARY IRELAND, WINNIPEG MB

QUANTIFYING THE LIKELIHOOD OF NEUTRON ABSORPTION UTILIZING RADIATIVE CAPTURE CROSS-SECTIONS

Included in this study is the testing of nuclides and compounds for purposes of discovering alternate materials for reactor control rods and nuclear containment. Fast incident neutrons—released as fission products with mean energies of ~ 2 MeV—are perpendicularly incident upon the surface of a rectangular prism composed of the nuclide or compound being tested. Prism length required to absorb 99% of the incident neutrons, nuclear reaction rate, and prism durability are quantified. Nuclides and compounds with shorter prism lengths, higher nuclear reaction rates, and greater prism durability are best fitted for absorbing neutrons as products of fission reactions. Denoted as nuclear poisons, these substances can stop the spread of neutron radiation, potentially mitigating the biological or environmental effects of a hypothetical nuclear accident. This study is to function as a contribution to the advancement of nuclear power and the eventual passing of the climate crisis.