May 25, 2018

Greater Sudbury students who competed at the Canada-Wide Science Fair in Ottawa from May 12 to 19, 2018 returned home with a number of awards, including Best in Fair.

“The Sudbury Regional Science Fair Committee congratulates the six students who represented Greater Sudbury so well at the national science fair where over 500 students presented their science projects. We are very happy our students were rewarded for their hard work. We wish to thank our many sponsors who made this trip and experience possible. We hope their success will encourage more students to have fun with science by working on a science fair project,” said Nicole Chiasson, President, Sudbury Regional Science Fair.

“We are very proud of students in Rainbow Schools for their exceptional achievement on the national stage,” says Norm Blaseg, Director of Education for Rainbow District School Board. “We are home to some of the best young scientists in the country. What a shining moment for our students, our schools and our community.” Director Blaseg congratulated all Canada-Wide Science Fair award recipients and participants. He also commended parents/guardians and teachers/mentors who support them along their journey of discovery.

Brendon Matusch won the Best Project Award, a Gold Medal, the Platinum Award for Best Intermediate Project, the Excellence Award in the Intermediate Category, the Challenge Award – Innovation in the Intermediate Category, a $750 Youth Can Innovate Award Intermediate, a $4,000 Entrance Scholarship to Western University, and an all-expenses paid trip to the European Union Contest for Young Scientists as a member of Team Canada-EUCYS in September.
A Grade 10 student at Lo-Ellen Park Secondary School, Brendon Matusch investigated techniques for the use of convolutional neural networks for autonomous driving. For this, Brendon developed a level 2 autonomous vehicle using components for vision, path planning, speed control, and stop sign detection. As part of his project, these variables were tested in a custom 3D simulation, as well as on a physical vehicle based on a modified electric go-cart. Brendon’s project “An Investigation of Techniques for Autonomous Driving Using Convolutional Neural Networks” garnered him First Place, Intermediate Division, Computer Sciences; the Laurentian University Computer Science or Mathematics Award; the Bharti School of Engineering Award; the Milman Industries Equipment Innovation Award; the Laurentian University Scholarship Award and the Ontario Power Generation Innovation Award at the Sudbury Regional Science Fair.

Nethra Wickramasinghe earned a Silver Medal, an Excellence Award in the Intermediate Category and a $2,000 Entrance Scholarship to Western University.
A Grade 9 student at Lockerby Composite School, Nethra Wickramasinghe developed a non-invasive, wireless system to measure and regulate a patient's heart rate to help reduce stress levels and increase wellness. For her project, "An Application to Manage Wellness with CBT," Nethra created a system that uses a sensor to track pulse signals. The signals are sent to the arduino platform, which converts the signal to beats per minute (BPM). The data is sent through Bluetooth to an application on an Android smartphone device. The device uses the data to determine whether the user is stressed, angry or anxious, and trains the user to overcome these mental health issues through cognitive behavioural therapy (CBT), rational emotive behavioural therapy and subjective units of distress. The application uses various interactive exercises to actively improve the user's mental health and increase their personal wellness. Nethra captured First Place, Intermediate Division, Life Sciences and the Biotechnology Award at the Sudbury Regional Science Fair.

Kerry Yang earned a Gold Medal, an Excellence Award in the Junior Category, a Challenge Award – Health in the Junior Category, and a $4,000 entrance scholarship to Western University.
A Grade 8 student at Lo-Ellen Park Secondary School, Kerry Yang investigated the use of dandelion root to reduce antibiotic resistance. For her project "Fighting Heavy Metals and Bacteria: Dandelion is the Key," Kerry examined the severity of antibiotic resistance in human health and determined that one of the causing mechanisms is heavy metal exposure. For her project, Kerry studied the beneficial role of dandelion extracts on heavy metal-induced antibiotic resistance. Kerry determined that bacterial antibiotic resistance could be induced by heavy metals and dandelion root could be used to help reverse bacterial resistance to antibiotics. Kerry took home First Place, Junior Division, Life Sciences, the Founding Members' Award; the Laurentian University Biology Award and the Laurentian University Chemistry/Biochemistry Award at the Sudbury Regional Science Fair.

"We are very proud of Rochelle's achievements at the Canada-Wide Science fair which truly reflects the quality of the educational program provided to our students as well as the high level of excellence of our teachers in the fields of science and technology," stated Mrs. Lyse-Anne Papineau, CSCNO Director of Education. "Our students have a truly well-earned reputation for academic achievement and we take great pride in seeing them reach new heights."

Rochelle Larivière earned a Silver Medal, an Excellence Award in the Junior Category and a $2,000 Entrance Scholarship to Western University.

A grade 8 student at Ecole St-Paul (Lively), Rochelle Larivière investigated the effect of electronic equipment on the phoria of the eye. Through tests with a Maddox rod, using

subjects of various ages, Rochelle evaluated the impact of cellular phones and virtual reality equipment on the condition of the visual axes of the eye. She wanted to know if the use of these tools have an impact or affect the health of the eyes. Rochelle took home First Place, Junior Division, Life Sciences; the Child Health Research Award; the Collège Boréal Award; the Laurentian University Physics Award at the Sudbury Regional Science Fair.

Sofya Mishchenko and Katherine Brown enjoyed their experience at the Canada-Wide Science Fair

Grade 8 students from Marymount Academy, Sofya Mishchenko and Katherine Brown, developed an eco-friendly way to generate electricity. They developed a prototype of their 'chair of the future" creating a temperature differential by using a device called the Peltier Tile. They inserted a cold substance into the compartment underneath the chair so that when a person sat on the chair, they generated electricity. Sofya and Katherine took home First Place, Junior Division, Engineering and the Ontario Power Generation Energy Award at the Sudbury Regional Science Fair.

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