



FOR RELEASE

Improved trace element detection puts Ottawa student on national honour list; Gayashan Tennakoon named Manning Young Canadian Innovator at Science Fest

FREDERICTON, NB (May 15, 2015) – Gayashan Tennakoon, 17, a Grade 12 student at Ottawa’s Colonel By Secondary School will be travelling this year because of the national recognitions he received at the 54th Canada Wide Science Fair. The national science competition was held at the University of New Brunswick campus this week. The 400 projects in three age categories involved 468 finalists, representing the top one percent of science fair projects conducted across Canada this year.

Tennakoon was named a Young Canadian Innovator by the Ernest C. Manning Awards Foundation. This honour includes a cash award of \$7,500, an October trip to Saskatoon for the Foundation’s National Awards Gala, and membership in a network of nationally recognized innovators.

Other awards for Tennakoon included a Silver Medal of Excellence, and the CWSF Challenge Award for the Environment category. As winner of the Canadian Stockholm Junior Water Prize, he will also represent Canada at Sweden’s August competition.

Gayashan Tennakoon’s project “*A Novel Approach for Environmental Trace Elemental Analysis*” has raised serious prospects for a better, simple, cost-effective approach to identifying low levels of trace elements, or analytes, in water samples where they may be the source of chronic disease, particularly in developing countries.

“Science Fairs have helped me realize my understanding of the scientific method, and what it's like to be with some of Canada's brightest students. Science has always been a big part of my life. I co-founded the regional branch of Project Pulse which organizes conferences for high school students to meet university students and professionals in the field of health sciences. Alongside this, I also came up with the idea for my project. It really came to be after understanding an issue, known as Chronic Kidney Disease of Unknown Origin, which has been a worldwide medical enigma. What saddened me the most was understanding how devastating this epidemic has been in my home country, Sri Lanka. I looked to help further develop environmental monitoring systems, to keep track of drinking water sources for those in remote areas around the world” explained Tennakoon.

“The World Health Organization has estimated that at least 90% of all chronic diseases can be attributed to environmental pollution in one way or another. For example, Chronic Kidney Disease, now

of epidemic proportions in some developing countries, has been suspected to be related to the presence of trace elements such as Cadmium, Lead and Arsenic in drinking water sources,” said Tennakoon. “The expensive and sophisticated instruments with required accuracy and low-level measurement capabilities for such studies are not readily accessible in many remote areas. Unavailability of suitable labs, and difficulties in transportation of water samples have become the main deterrents for such vast investigative research.” Tennakoon’s research aims at hitting two birds with one stone. He wants to increase the ease of how large sample sizes are transported while maintaining the integrity of the sample as well as drastically decreasing the detection limit on elements that are extremely difficult to detect in water.

Tennakoon’s method of adding a carrier (a solid substance) into a sample, completely drying the sample through heating, and then washing the elements off of the carrier results in 100% recovery of the elements of interest in the sample. This acts as a way of minimizing the amount of “un-measurable samples” that are received, which “significantly lowers the detection levels” of the element. This novel idea of using carriers overcomes the issues of certain chemical properties of these trace elements that have been seen as “major limitations” in current methods. This has huge implications in detecting these trace elements that are normally un-detectable or very costly and difficult to measure.

“The caliber and ingenuity of Tennakoon’s project is proof that age is no barrier to innovation,” said Jennifer Diakiw, President of the Ernest C. Manning Awards Foundation. “For the past 23 years, the Foundation has been celebrating outstanding young Canadians competing at the Canada Wide Science Fair. The 2015 winners are passionate and creative visionaries and we and our sponsors believe supporting them is critical to creating a culture of Canadian innovation. ”

The Ernest C. Manning Awards Foundation introduced its Young Canadian Program in 1992 to recognize outstanding high-school students at the Canada-Wide Science Fair. Each year, the Manning judging team selects eight winning projects, to receive a \$500 Manning Innovation Achievement Award. From the eight, four are honoured with the Manning Young Canadian Innovation Award, which includes a further \$7,000 prize. More information about the Manning Awards is available at www.manningawards.ca, Twitter @ManningAwardsCA Facebook/ManningAwards.

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