



Calgary students win two Manning Innovation Awards at 2014 Canada Wide Science Fair

WINDSOR, ON (May 15 , 2014) -- Two projects from Calgary students captured both major and minor Young Canadian Innovator prize money from the Ernest C. Manning Awards Foundation at the 53rd annual Canada Wide Science Fair held this week at the University of Windsor campus.

A novel diagnostic procedure providing a computational analysis of Multiple Sclerosis (MS) earned 17-year-old Webber Academy student **Arjun Nair** \$4,500 for being named a Manning Young Canadian Innovator. In addition, he will attend the Foundation's National Innovation Awards Gala October 22 in Ottawa.

No stranger to past awards for health related projects, this year Nair developed an advanced, more time-efficient and comprehensive diagnostic tool related to MS. He also won the Senior Excellence Gold Medal and his choice of entrance scholarships to five Canadian universities. As well, he received awards from the Statistical Society of Canada and the Actuarial Foundation of Canada.

“Multiple Sclerosis is an incurable, but treatable, immune mediated neurodegenerative disease. Therefore, early recognition of the disease is crucial to improving patient outlook. Current medical procedures are lengthy – as much as one to two years. It is also expensive and aggravating. By changing the way we fundamentally tackle diagnostics, this project couples a network-based systems analysis of protein interaction networks with artificial intelligence to develop a novel blood-based diagnostic tool,” explained Nair. His project identified a biomarker that quickly predicts the future onset on MS in patients with 96 per cent accuracy. The use of biomarkers had never been used for MS diagnosis.

Hayley Marie Todesco, a 17-year-old Queen Elizabeth Senior High School student and a veteran of Science Fairs with a passion for environmental research, was another Calgarian honoured. Todesco was recognized by the Manning Awards for her work in designing, constructing and testing the effectiveness of sand filters newly applied as bioreactors to the biodegradation of toxic naphthenic acids found in the Canadian oilsands. She won the \$500 Manning Innovation Achievement Award, as well as Senior Excellence Silver medal, the Canadian Stockholm Junior Water prize, and her choice of entrance scholarships to four Canadian universities.

“Reductions in acid concentrations and development of large biofilms over three weeks revealed that these new bioreactors were 14 times more efficient than batch bioreactor controls. Application of these inexpensive and sustainable bioreactors could significantly accelerate the detoxification of Canada's oilsands,” explained Todesco.

-more-

Todesco also explained that conventional bioreactors would take over 200 years to cleanse the tailings from the toxic naphthenic acids. With her new system using sand filters and a biofilm, it would take only 19 years to do the same.

The Canada Wide Science Fair this year attracted 463 Junior, Intermediate and Senior age exhibitors vying for close to \$1 million in cash, prizes and scholarships in projects that showcased bright minds that are innovating for Canada.

“Canada’s economic and social future depends on the proper investment and mentorship of young innovators who are emerging visionaries and change agents. The encouragement of organizations like Youth Science Canada and the Ernest C. Manning Innovation Awards Foundation is a fundamental commitment to the realization of the economic and social opportunities that innovative minds create for Canada, and indeed globally, starting with our youngest innovators. We are pleased to be recognizing and fostering that mindset among Canadian youth,” said Jennifer Diakiw, president, Ernest C. Manning Innovation Awards Foundation.

The Ernest C. Manning Innovation Awards Foundation introduced its Young Canadian Program in 1992 to recognize innovative Canada-Wide Science Fair projects. Each year a judging team selects eight winning projects, four of which earn the \$4,500 Manning Young Canadian Innovator Awards, and four others earn \$500 Manning Innovation Achievement Awards. For more information about the Foundation and its awards visit www.manningawards.ca Follow on Twitter @ManningAwardsCA Like on Facebook/Manning Awards.

-end-