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Notre Dame Catholic's Aisha Parven earns Manning Innovation Achievement Award; Promising research advances potential nanoparticle/heavy metal to fight cancer

FREDERICTON, NB (May 15, 2015) – Toronto's Notre Dame Catholic Secondary School Grade 11 student Aisha Parven was today named a Manning Innovation Achievement Award winner at the 54th Canada Wide Science Fair (CWSF) held at the University of New Brunswick campus. She received \$500 from the Ernest C. Manning Awards Foundation, and membership in a network of nationally recognized innovators. The CWSF featured 400 projects in three age categories and involved 468 finalists, representing the top one percent of science fair projects conducted across Canada this year.

Aisha Parven also received a Silver Medal of Excellence in the Senior category.

Parven's project, "*Combining Gold Nanoparticles with Indium and Panitumumab to Inhibit Cancer*" was undertaken to find a more efficient way to inhibit cancer growth without having long-term effects. "The use of nanotechnology in cancer treatment has proven to be a great success, nevertheless the results are not always as expected because in most cases the tumour returns over time", explained Parven.

Parven developed a two-stage process for which she was effectively able to kill up to 65% of cancer within a single week. Parven's project uses gold nanoparticles as a vector to deliver a source of a human antibody (used in our body's immune response), Panitumumab, directly to the cancer cells in question: MDA MB 468 cells. This dose of Panitumumab completely inhibited the growth of the cancer cells and killed 30% of the cells.

The second phase of the test, after the administration of the Panitumumab through gold nanoparticles, was to introduce pure Indium, which is non-toxic and has never before been used in cancer research (only the radioactive Indium, which is toxic). This second stage using pure Indium was able to kill 52% of the remaining cancer cells within a week.

Parven's work is paving the way forward for the use of pure, non-radioactive, heavy metals in cancer treatment.

"This project opens up the possibilities for future cancer experiments involving the use of various nanoparticles with different metals to cure diseases," concluded Aisha Parven.

“The caliber and ingenuity of Parven’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 further honoured with the Manning Young Canadian Innovation Award, which includes a \$7,000 prize. More information about the Manning Awards is available at www.manningawards.ca, Twitter @ManningAwardsCA Facebook/ManningAwards.

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For media info, photo and to interview winner:
Rosemarie Enslin, Enslin Group
403-630-8421
enslin@enslinpr.com
@RosemariePRyyc