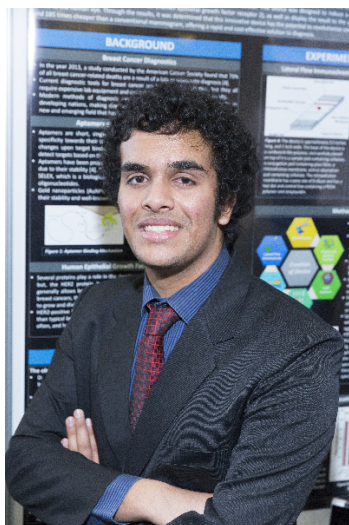


## ESPC 2018 - Ottawa (Ontario)



### Aryan Singh

#### A Novel Colourimetric Lateral Flow Immunoassay for Breast Cancer Diagnostics

**Défi:** Santé

**Catégorie:** Sénior

**Région:** Ottawa

**Ville:** Ottawa, ON

**École:** Longfields-Davidson Heights Secondary School

**Sommaire:** A novel cost-effective lateral flow-based immunochromatographic device for the early detection of breast cancer through the molar measurement of the HER2 bio-marker is presented. This simple and light-weight device is minimally-invasive and can provide a user with a colourimetric result in under 30 seconds. This innovative aptamer and gold nanoparticle-based biosensor offers an inexpensive solution to cancer diagnosis at the earliest stage.

#### Biographie

Hello! My name is Aryan Singh, and I am a 16-year-old high school student who has a genuine passion for STEM. I am heavily involved in my community, as I run multiple clubs in and outside of my school. It has always been a childhood dream of mine to become a medical doctor because it incorporates two of my favourite things: science and helping people. I was inspired to do this project soon after a family member was diagnosed with breast cancer at a late stage. Realising the ineffectiveness of current breast cancer diagnostics, it became evident to me that it is imperative to create a cost-effective and rapid device for the early detection of breast cancer. This unfortunate event had given me the motivation to try to solve this problem. I plan on continuing my research on cancer by perfecting my device and hopefully making it available to people who do not have easy access to health care. If I were to give one piece of advice to someone who is thinking of doing a science project, it would be to choose an exiting topic that you are passionate about because the best projects are always developed through passion.

#### Prix

#### Valeur

|   |                     |
|---|---------------------|
| Prix d'excellence - Sénior - Médaille d'argent<br>Commanditaire: Sciences jeunesse Canada   |                     |
| Bourses de l'Université Carleton<br>Médaille d'argent, sénior - Bourse d'admission de 2 000 \$<br>Commanditaire: Université Carleton  | 2 000,00 \$         |
| Bourses d'admission de la Faculté des sciences de l'Université Dalhousie<br>Médaille d'argent, sénior - Bourse d'admission de 2 500 \$<br>Commanditaire: Université Dalhousie, Faculté des sciences | 2 500,00 \$         |
| Prix d'admission en sciences de UBC (Vancouver)<br>Médaille d'argent, sénior - Bourse d'admission de 2 000 \$<br>Commanditaire: The University of British Columbia (Vancouver)                      | 2 000,00 \$         |
| Bourse d'admission de l'Université d'Ottawa<br>Médaille d'argent, sénior - Bourse d'admission de 2 000 \$<br>Commanditaire: Université d'Ottawa   | 2 000,00 \$         |
| Bourse d'études de Western University<br>Médaille d'argent - Bourse d'admission de 2 000 \$<br>Commanditaire: Université Western  | 2 000,00 \$         |
| <b>Total</b>  | <b>10 500,00 \$</b> |