**Investigating the Effects of Differing Far Red to Red Wavelengths and Increased Reflectivity on *Rubus ideaus L* Yield and Development Grown in a Vertical Farm**

Simran Kaur1\*, Yoana Angelova1\*, Lesley Geilis Campbell1, Habiba Bougherara2

1*Department of Chemistry and Biology, Toronto Metropolitan University, Toronto*

2*Department of Mechanical, Industrial and Mechatronics Engineering, Toronto Metropolitan University, Toronto,*

Food security is improved when people have access to fresh fruits and vegetables. While Canada is the third largest importer of raspberries in the world, we have very limited means of growing raspberries ourselves, reducing our food security. To improve the production of raspberries in Canada, we are developing environmental recipes that increase yield of raspberries grown in indoor environments. To that end, we compared the effect of reflected light (white light vs high amounts of far red wavelengths) on the development and fruit production in raspberries (*Rubus ideaus L)*. The impact of differing far red to red ratios of reflected light as well as the effect of this reflected light on yield will be reported. Similar studies have suggested that by exposing other fruit crops to more far red wavelengths, crops such as tomatoes and strawberries produce more fruit. Preliminary results will be presented at the conference. We anticipate our results will increase the efficiency of indoor agriculture in Canada.