

CWSF 2009 - Winnipeg, Manitoba

Uliana Kovaltchouk

Molecular Insights on DNA Uptake & Transit Pathways in *Saccharomyces cerevisiae*

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by request.

Division: Physical & Mathematical Sciences / None

Category: Senior

Region: Winnipeg Schools

City: Winnipeg, MB

School: Sisler High School

Abstract: Human genetic therapy requires a molecular system of delivery into eukaryotic cells. In order to understand this system, a pathway must be noted and assessed in efficiency. Using *Saccharomyces cerevisiae* as a model, antibodies were attached to specific cellular bodies, and DNA labeled with Alexa Fluor was transformed and followed throughout the cell. Transformed DNA was analyzed to determine a final destination in the nucleus.

Biography

For the past two and half years, I have been pursuing my research initiatives at the University of Manitoba. I have participated for the past two years in the Canada Wide Science Fair, and more recently at the Sanofi-Aventis Biotech Challenge, winning the Gold medal in the intermediate category. I also competitively engage in the Pascal and Cayley Math Contests both years placing in the top 25% of the population and in the Manitoba Robotic games. During my spare time I as well express music in many different forms. I play piano and am currently in grade 8 in the Conservatory of Music, and have completed 2 grade levels of music theory. I as well play flute in my schools concert band, and am a member of the concert choir. Having a strong passion about the environment, I am the secretary of Sisler High School's Geothermal Council. This group focuses on providing our school with a Geothermal system, which holds many eco-friendly advantages, such as reducing carbon emission by approximately 50%. My future career goal includes becoming a human genetics scientist.

Awards

Value

Honourable Mention - Life Sciences - Senior	\$100
Sponsor: Pfizer Canada	
Total	\$100

