

# CWSF 2009 - Winnipeg, Manitoba



## Stephanie Gaglione

### Disappearing Oil: Enhanced Bioremediation of Oil-Contaminated Soil in Bioreactors

**Division:** Engineering & Computing Sciences / Environmental Innovation

**Category:** Intermediate

**Region:** Toronto

**City:** Woodbridge, ON

**School:** St. Joseph's Morrow Park C.S.S.

**Abstract:** To effectively reduce the oil concentrations in highly contaminated soil, lab scale bioreactors were constructed containing varying amounts of oxygen, phosphorus, and nitrogen, as well as acclimated soil bacteria. Environmental factors were controlled and a method of oil quantification was employed. A tremendous reduction in contaminant concentration and the presence of microbial mats denoted the effectiveness of enhanced bioremediation in ex-situ bioreactors.

#### Biography

Currently a grade 9 student at St. Joseph's Morrow Park, Stephanie Gaglione is a talented, highly motivated, and athletic young woman. Constantly involved in activities, she is a member of the Leadership Ministry, school newspaper committee, math club, debate team, and volunteers at the local library on a teen advisory committee. Stephanie enjoys a variety of sports, and excels in competitive figure skating, swimming, cross country and alpine skiing, team sports, cross country, for which she placed 7th in Toronto, and track and field in the 3000 m event. Even so, she has maintained a 98% academic average in both semesters of this year, and enjoys science, particularly biology and chemistry, math, English, French, and economics, and loves to read. Stephanie participates in music, playing the French Horn and grade 6 piano. Over the summer, Stephanie takes pleasure in canoe tripping in Algonquin Park and will be exploring the wilderness on a two week canoe trip this summer. In the future, Stephanie seeks to enter the field of science, perhaps microbiology or engineering.

#### Awards

#### Value

Petro-Canada Peer Innovation Award - Intermediate - Ontario South Sponsor: Petro-Canada	\$200
The University of Western Ontario Scholarship Silver Medallist - \$1500 Entrance Scholarship Sponsor: University of Western Ontario	\$1 500
Silver Medal - Earth & Environmental Sciences - Intermediate Sponsor: Petro-Canada	\$700
<b>Total</b>	<b>\$2 400</b>