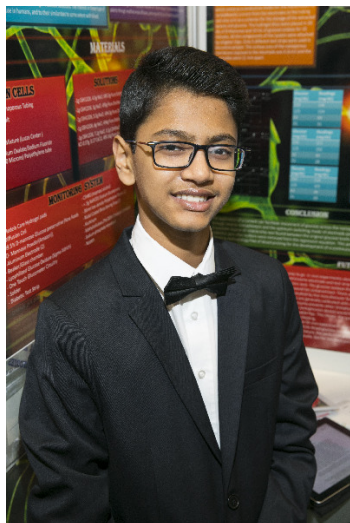


# CWSF 2017 - Regina, Saskatchewan



## Devarsh Shah

### A Novel Approach to Non-Invasive Glucose Measurement

**Challenge:** Health

**Category:** Intermediate

**Region:** Lambton County

**City:** Sarnia, ON

**School:** Northern C.I. & V.S.

**Abstract:** In the last two decades, several studies have been carried out to establish non-invasive glucose monitoring systems. Currently, no such transdermal device exists. Current, generated during iontophoresis, can be used to convect neutral molecules through the skin. This concept was exploited for non-invasive glucose measurement by its iontophoretic extraction from a subcutaneous-like membrane. Results from numerous in vitro experiments suggest this system is a solution.

#### Biography

My name is Devarsh Shah and I am a ninth grade student at Northern Collegiate Institute & Vocational School in Sarnia, Ontario. I am a member of the 44 Sarnia Imperial Air Cadet Squadron. My favorite sports are badminton and tennis. I like to be part of my community, which is one of main reasons I volunteer at Trillium Villa, CogecoTV, and other organizations. I have also participated in many academic competitions such as the Gauss Math Competition, the Caribou Math contest, and public speaking. Science has always been one of my greatest passions, more specifically, medical science. This year my project is based on the concept of replacing the conventional method of measuring blood glucose. My future plan is to test this new non-invasive system as an in vivo experiment to make it commercially viable. I got the inspiration of my project from a diabetic friend, whose complaints were basis of my research! Participating in the science fair is a great experience and I'm looking forward to attending the CWSF in Regina this year!

#### Awards

#### Value

Canadian Society for Medical Laboratory Science Award Intermediate Sponsor: Canadian Society for Medical Laboratory Science	\$750
Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$1 750</b>