

CWSF 2011 - Toronto, Ontario

Sruti Arulmani

Photoheterotrophic Microbial Fuel Cell

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Challenge: Energy
Category: Junior
Region: Peel
City: Mississauga, ON
School: Tomken Road Senior P.S.
Abstract: Obliteration of fossil fuels at unrelenting rates signifies the commercial and economic viability of microbial fuel cells (MFC) as green energy. MFCs induce utilizable currents from chemoheterotrophic bacterial interactions from anaerobic bacteria. MFCs were constructed with photosynthetic photoheterotrophic pigments including Betalain, Cryptoxanthin, and Anthocyanin to absorb photon energy and produce electricity. Further enhancements were attained employing a non-polarizable reference electrode and using south magnetic polarity.

Biography

My name is Sruti Arulmani and I am 13 years old. I am a grade eight student at Tomken Road Middle School and I am currently in the Sci-Tech program. At school my favourite subjects are science and geography and some of the clubs and committees I am involved in include the student executive, Red Maple reading club, Toatmasters Youth Leadership program. I also participate in intramural leagues offered at our school (soccer, basketball, volleyball, etc.). My special interests are dancing, reading, badminton and volleyball. I started dancing when I was eight and attend a dance academy. Outside of education and sports I play the flute and take part in art programs during the summer. During the holidays, my favourites are hiking and travelling. I have been participating in the science fair for the past three years and I hope to pursue a career in neuroscience in the distant future.

Awards

Value

Excellence Award - Junior - Gold Medal Sponsor: Youth Science Canada	\$1 500
The University of Western Ontario Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: University of Western Ontario	\$4 000
Total	\$5 500