

Student Scientist Nominated for STEM Pre-College Scholarship for Research Work Done in Developing a Biohybrid Solar Cell



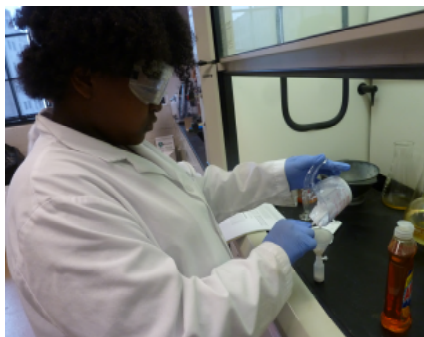
Above: Isis Washington

As the global economy continues to expand, the demand for energy resources will continue to grow. Presently scientists and engineers are looking for ways to improve existing alternative energy systems. The benefits of harvesting thermal energy from the sun and converting it to electricity have been well documented but there is still room for improvement.

The 4-H Renewable Energy Camp at Michigan State University (MSU) is a leader for exposing students to concepts in alternative energy system design. Students come from communities throughout the State of Michigan to attend the program. At the conclusion of the camp two students out of nearly 100 participants are nominated to receive a \$2,000 pre-college scholarship to attend MSU upon graduation from high school. The student scientists in the Ecotek Lab program have participated in the camp for the past three years.

On September 1, 2015, Isis Washington, an 8th grade student scientist in the Ecotek Lab Program was nominated to receive the pre-college scholarship. She is the fourth student scientist from the lab to be nominated. Past nominees include Miles Frierson (2014), Demarius Clemons (2013), and Raynisha Pannell (2013). The selection criteria for the pre-college scholarship include student maturity, work ethic, and scientific/technical knowledge regarding alternative energy systems. The selection committee also considers a student's leadership qualities and their ability to work with others.

To prepare for the renewable energy camp Isis spent many hours in the lab learning how to design, construct and test a biohybrid solar cell. To improve the efficiency of her solar cell Isis isolated and combined proteins found in blueberries and raspberries. After testing the combinations, she found that blue berries produced the greatest amount of energy. During the 2015-16 school year Isis will integrate her interest in 3D printing and virtual reality systems to design prototypes and develop applications that may help improve the design, implementation and management of renewable energy systems.



Isis working in chemical fume hood making biohybrid photovoltaic paste for application on solar cell



Isis using heat gun to produce photosynthesis reaction on surface of solar cell



Isis showing Kye Smith (1st grader) and Ryan Wawrow (5th grader) how to view solar cell under microscope

About the Ecotek Science Program

Ecotek is a science research lab program for young inventors and researchers in grades 5 thru 12. Student scientists work on projects aligned with the issues being addressed by world leaders at the United Nations. To learn more about Ecotek Lab go to <http://www.ecotek-us.com>