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FOR IMMEDIATE RELEASE

St. Catharines high school student publishes original research on sustainable energy in scientific journal

Dheiksha Jayasankar, a student at Sir Winston Churchill Secondary School in St. Catharines, Ontario, recently published a scientific manuscript titled, “Efficacy of rotten and fresh fruit extracts as the photosensitive dye for dye-sensitized solar cells” in the *Journal of Emerging Investigators*.

Published on January 15, 2019, Jayasankar’s article explores the use of fruit in solar energy technologies. Solar power has become increasingly more popular over the years with advances in technology expedited by a global demand for clean energy in great amounts. One example of a popular solar technology is dye-sensitized solar cells (DSSC), which use dye to absorb light energy. Different dyes absorb different amounts of light energy depending on the pigments present in the dye. The energy absorbed excites electrons which in turn allows the system to create an electric current through a series of reactions. DSSC’s are also easier and cheaper to manufacture compared to traditional photovoltaic cells, making them viable options for consumers.

Jayasankar used extracts from several different fruits to determine which dyes were most effective in the DSSC technology. Jayasankar explains that a fruit’s color is defined by a unique set of molecules (known as a pigment profile) that changes as the fruit transitions from ripe to rotten. Therefore, Jayasankar studied the efficacy of dyes from both ripe and rotten fruits with the DSSC apparatus. Jayasankar found that extracts from ripe fruit generally produced greater electric potential, with the exception of kiwi that had greater potential from rotten fruit extract. By using fruit extracts with DSSC technology, people around the world can use food that would normally be wasted as a source of clean and readily available energy.

The *Journal of Emerging Investigators (JEI)* is a non-profit scientific journal operated by graduate students at Harvard University. JEI is dedicated to mentoring young scientists in middle and high school and publishing their research through the online journal. Articles submitted to JEI pass through a rigorous editorial and scientific review process by several PhD-level scientists before they are accepted and published.

Link to Jayasankar’s full article: <https://emerginginvestigators.org/articles/efficacy-of-rotten-and-fresh-fruit-extracts-as-the-photosensitive-dye-for-dye-sensitized-solar-cells>

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