

Journal of Emerging Investigators

...where students become scientists.

October 12, 2018

FOR IMMEDIATE RELEASE

Cupertino high school student publishes article in science journal on alternative light sources found in bacteria

Ruchika Dixit, a student at Homestead High School in Cupertino, CA, recently published a scientific manuscript titled, "Effects of Quorum Sensing and Media on the Bioluminescent Bacteria *Vibrio fischeri*" in the *Journal of Emerging Investigators*.

Dixit's article, published on October 2, 2018, seeks to understand how bioluminescent bacteria can be manipulated in different ways to provide a source of light in areas that may have limited or no access to electricity. Dixit notes that in many parts of the world, light is a commodity that is hard to come by, so many people result to burning trash that is obviously a detriment to the environment. Various organisms have the ability to naturally produce light, which could be utilized as a clean form of light for people all over the world.

Dixit worked with a species of bacteria called *Vibrio fischeri*, which is found in marine environments and works symbiotically with various organisms such as squid. By altering the mediums in which the bacteria were cultured, Dixit measured light output and found that bacteria grown in a chitosan medium (a type of starch), produced the most luminescence. In addition to studying how certain chemicals effect luminescence, Dixit also sought to better understand how density effected luminescence of bacterial samples, but found that density had no significant impact. People around the world are living in the dark, and research like Dixit's is at the forefront of sustainable and effective solutions to provide a reliable source of light.

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 Dixit's article: <https://emerginginvestigators.org/articles/effects-of-quorum-sensing-and-media-on-the-bioluminescent-bacteria-vibrio-fischeri>

Contact: Cam Hedden (JEI Media Relations Specialist, cam@emerginginvestigators.org)

Available for Interview:

Ruchika Dixit (Student Author, dixitru@gmail.com)

Sean Carroll (Senior Author/Mentor)

Olivia Ho-Shing (JEI Co-Editor-In-Chief, olivia@emerginginvestigators.org)

Mark Springel (JEI President, mark@emerginginvestigators.org)