



2016 NOBCChE National Science Fair Abstract

Category: **Math & Engineering**

Title: **Reducing E-waste – Conversion of a Smartphone into a Digital Microscope**

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With constant invention and upgrade of Smartphones, there is a significant number of phones being recycled for use by individuals for emergencies, refurbished and used by those in the military, yet still others are tossed in the trash. Smartphone E-waste contributes to the leakage of cadmium, lead, and mercury which contaminates the soil and waterways, putting poison in our plants, animals and also in humans. Another alternative use of Smartphone technology is as a digital microscope for use in a laboratory setting. Different types of Smartphones will be examined to determine the effectiveness of the use of Smartphones as equipment for science laboratory use. For each of the Smartphones examined, the iPhone will be the best capable Smartphone useable as a digital microscope.

The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) National Science Fair is a poster competition in which students present an independent completed research project. Each contestant in the Science Fair must demonstrate their ability to conduct a research project by:

- Submitting an abstract of 150 words or less on an individual research project in one of the following **four categories: physical science, math & engineering, consumer science, or biological science.**
- Presenting the results of the research in a poster format, including answering questions from judges; and submitting a written report during the poster presentation.
- For more information, visit www.nobccheSTEMwkd.com.