**Abstract**

The widespread use of portable electronics has made energy generation and storage an important issue for scientists and engineers. The possibility to harness energy from ambient sources of energy, such as vibration, friction, and sound, has been realized as triboelectric generators. However, the comparison of the combinations of materials in these generators have not been addressed in detail [1]. Knowledge gained from studying the output parameters of triboelectric generators with different material components will provide new insight on effective material selection for further research and applications. The main focus of this research is to investigate how the material composition affects the triboelectric generator’s process of producing electric power. All other factors, such as temperature, device construction, device layout, and measurement procedure will be held constant. Given differing material combinations, sets of triboelectric generators will be fabricated and tested. Once data has been collected, the combinations will be ranked based on performance in different parameters. In addition, any trends between electrical performance and material/chemical properties will be investigated. The impact of improving our understanding of these generators is widespread, as advances can provide solutions to telecommunications and low power electronics companies looking for promising technology for charging and powering the near universal use of their portable devices.

**References**

[1] Zhong Lin Wang. (2014, Sept. 8). *Triboelectric nanogenerators as new energy technology and self-powered sensors – Principles, problems and perspectives* [Online]. Available: http://www.nanoscience.gatech.edu/paper/2014/14\_FD\_01.pdf