



## Mechanical/Environmental Sustainability Project

### Piezoelectric Design

#### Mission Statement

To further investigate piezoelectric devices that will new ways to recycle energy and access it where electricity may not be readily available.

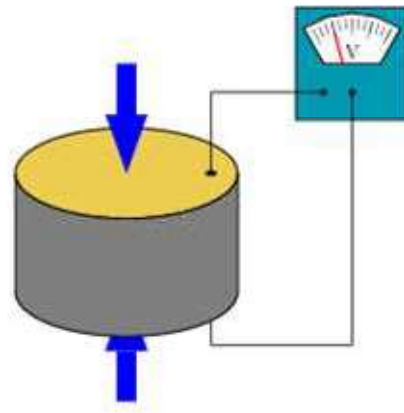
#### Synopsis

In following the research and design process as taught at the 2013 LSSL Winter Intersession the team was able to produce a model floor lined with piezoelectric devices which can effectively convert the mechanical energy from movement on the floor into renewable energy.

When a piezoelectric material is subjected to a mechanical deflection/stress, an electric current across the device is generated. This current can be stored into a battery for future electronic applications. The model floor did do so whenever movement is going on and can either charge a capacitor or immediately light a Light Emitting Diode (LED) that was built in the perimeter of the platform.

In the future, further research can go into optimizing the output voltage of the piezo devices that occur from different human interactions.

The project was deemed to have been successful and met several educational objectives.



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