

Experimental Demonstrations (Thermodynamics)

Physics Enhancement Programme

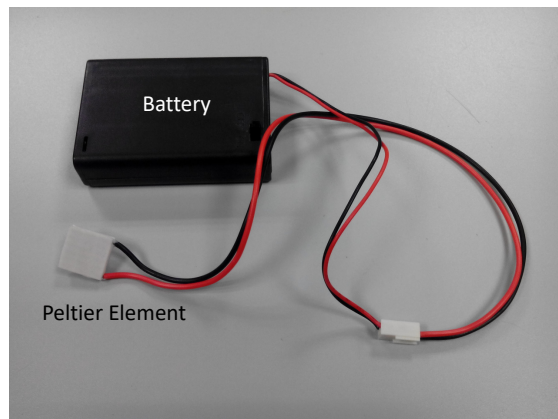
Dr. M.H. CHAN

Department of Physics, HKBU

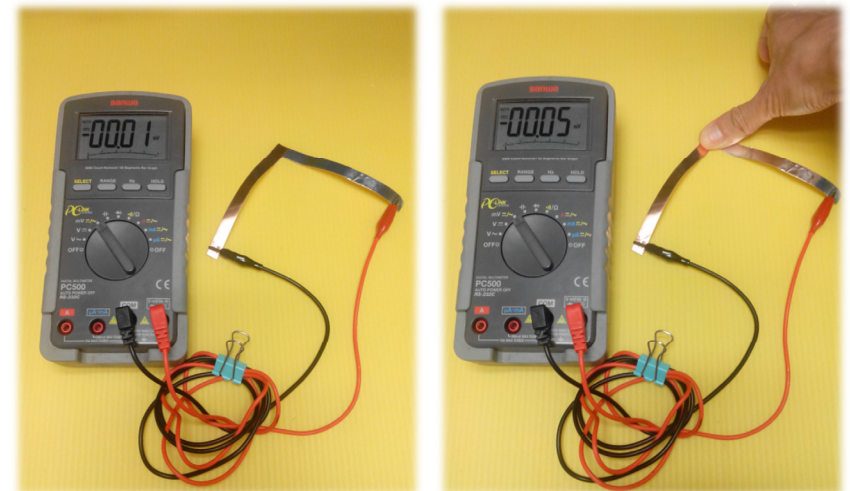
Seebeck Effect

- The Seebeck effect refers to the generation of potential difference due to a temperature gradient (different temperatures) between two dissimilar electrical conductors.
 - The process is reversible.
 - Allow conversion from heat to electricity, and conversion from electricity to the temperature gradient between two surfaces.

Peltier Heat Pump



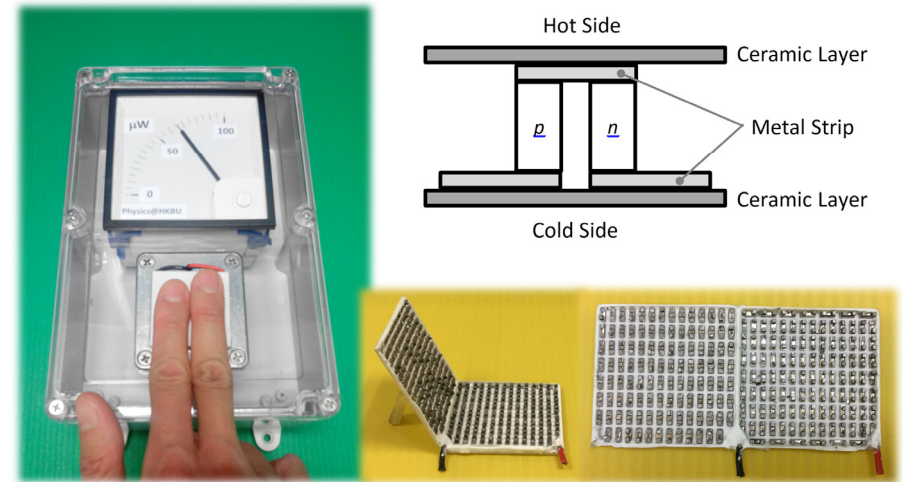
Demonstration Copper and Aluminium



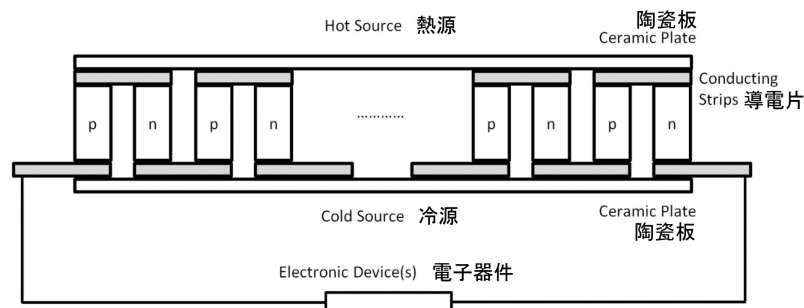
Demonstration: Generation of Thermoelectric Voltage



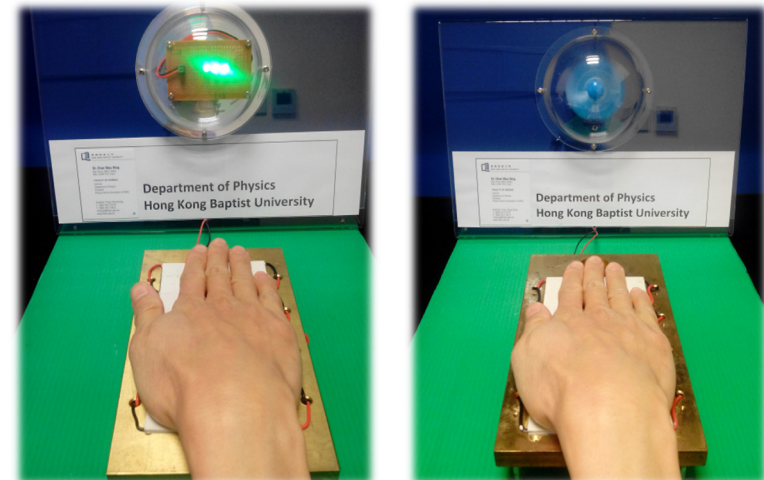
Demonstration: Thermoelectrics

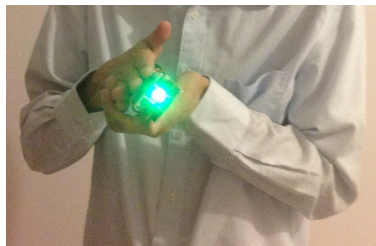


Schematic Diagram of Thermoelectric Device



Applications and Demonstrations: Thermoelectric Devices





Body heat powered LED and Fan.



Waste water heat recovery to generate electricity.

Demo: Stirling Engine

