

# Design a Mechanism to Capture Energy From Human Walk

**Status:** Available

**Group Members:** TBD

**Sponsor(s):**

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## Project Description

**Abstract:** Ambient energy harvesting is a relatively new area and the demand for it has been increased over the past decade to improve the efficiency and save other natural resources which are typically not environment friendly. With our current life style walking is now a days considered as an exercise. In other words, people walk for energy dissipation. As a result it is fair to consider that loss as an ambient concentrated source of energy and turn that into electricity. The goal of this capstone project is to design a novel, efficient, and low cost energy harvesting system that can be integrated with shoes to harvest energy loss in walking.

**Description:** So far, the solutions that have been offered for walking energy harvesting were mostly for the research proposes and have not been applied to a commercial product. One of the main reasons was the low power generation capability of the mechanisms which could not justify the cost. This capstone project focuses on converting walking energy to a high density storable mechanical energy and then gradually converting that to electricity using an appropriate electromechanical transducer. The project has three objectives: (i) design a retrofitable mechanism for converting walking energy to high density mechanical energy, (ii) design an electromechanical transducer, and (iii) design a power management unit.