

Nano-Generators with Piezoelectric-Coated Carbon Nanotube

A nanoscale power generation system that has improved power generation and service life

A Georgia Tech researcher has developed a nano-scale power generation system that has improved power generation and service life. This device includes piezoelectric-coated carbon nanotube generators that are capable of providing power to nanoscale systems for longer periods than conventional methods. Overall, the invention is a generator that includes a first conductive layer, a plurality of elongated piezoelectric nanostructures, and a conductive electrode. The plurality of elongated piezoelectric nanostructures extends upwardly from the first conductive layer. The plurality of elongated piezoelectric nanostructures includes a carbon nanotube core and a piezoelectric sheath enveloping at least a portion of the carbon nanotube core.

Summary Bullets

- Improved power generation
- Extended service life

Solution Advantages

- Improved power generation
- Extended service life

Potential Commercial Applications

- Power generation
- Medical devices

Background and More Information

Many micro-scale and nano-scale machines have been proposed for use in medical devices. However, most of these machines are limited by the size of the power source that drives them. Specifically, many designs rely on chemical batteries to supply electrical power to the devices. Therefore, they can be no smaller than the battery used and are useful only so long as the battery is able to provide power.

Inventors

- David Stollberg
Research Engineer II - Georgia Tech Research Institute

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Publications

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Images

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