UNIVERSITY OF TEXAS ARLINGTON | OFFICE OF TECHNOLOGY MANAGEMENT

ELECTRIC ENERGY GENERATION: PIEZOELECTRIC WINDMILL

(UTA 05-04)

Technology Need:

The "Small-power range energy-on-demand" consists of solar energy, hydrogen fuel cell, thermoelectric devices and photostrictive materials have been used as methods for generating energy. However, the integration of these methods with the intended platform is expensive, tedious and technology driven. Battery powered mobile devices have been widely used in various applications. However, the concern with such devices has been that they must be always charged before use. Similarly, sensors and data acquisition components performing in the distributed network require centralized energy source for their operation. This source needs to be charged or replaced with the time.

Solution/ Offering:

Researchers at UT Arlington have developed a revolutionary methodology for harnessing the power from freely available wind on mass scale. This energy can be used for common application such as general purpose lighting or transmitted wirelessly to power various on board devices including sensors. This technology provides the breakthrough in generating on-site electricity for all the cases where mechanical energy is freely available.

Value Proposition:

- ✓ Portability
- ✓ Lowest Investment Cost

Industrial application:

- ✓ Piezoelectric Instrument Manufacturers
- ✓ Defense Sector

Patent Status:

- ✓ Patent Granted US7,686,974

Current Stage:

- ✓ Prototyped

Meet the Inventor

Shashank Priya is an Associate Professor in Department of Material Science and Department of Mechanical Engineering at Virginia Tech. Prior to joining Virginia Tech, he was Assistant Professor at UT Arlington. His research interests include high power piezoelectric materials and devices, ferroelectric thin film phenomenon, magnetic nano particles etc.

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