Team is creating power-generating method

By James Neighbors The Shorthorn staff | Posted: Wednesday, January 22, 2014 12:10 am

A research team at UTA has developed a prototype of a micro-windmill that might be able to generate enough power to run small devices such as cellphones.

The microelectromechanical systems team is led by electrical engineering professors Smitha Rao and J.C. Chiao. The design of the micro-windmill is not yet optimized, Chiao said about the one-year-old project, which is in its early stages. Future research will include exploring the physics behind the small scale device, including the effects of humidity and friction which are some problems that are not typically critical with its large-scale counterparts, he said.

"Imagine this," Chiao said. "If you could put a remote device in the middle of nowhere that could harvest energy, you could use that energy to run electronics without the need for a traditional power source and with less environmental impact."

The team is also looking into possible ways to harness this technology to efficiently power medical devices, Chiao said.

The team used a cost-effective approach that opens the door for large-scale production, he said. Though Chiao does not anticipate making the device available directly to the general public, the team hopes to work with companies to include the technology in everyday objects.

Chiao said he was thrilled that companies from around the world, including from Taiwan, Germany and France, had already contacted the team about the future of the micro-windmill. The team has initiated the patenting process, he said.

Mechanical engineering junior William Seidmeyer from Magnolia, Texas said he came to UTA because he wants to take part in research like this.

"Projects like these are the reason I went to UTA," he said. "This windmill is genius and proves UTA is more than capable of advancing technology beyond our wildest dreams."

Rao, the lead on this project, who completed her master's and Ph.D at UTA, has worked on the project for about one year, said Chiao. Rao began her work and research at UTA while she was still a student and has been on the research team for eight years, Chiao said.

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