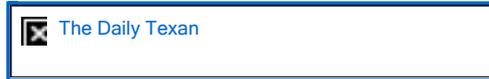


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Clothes could monitor owner

SmartSkin would sense environment around material

By Kan Yan

Husband-and-wife research team Donald Butler and Zeynep Celik-Butler, professors of engineering at UT-Arlington, are working on technology that will allow clothes to monitor their wearers.

SmartSkin, also known as "distributed flexible microsensor array," uses sensors in flexible materials in order to monitor the environment around the material.

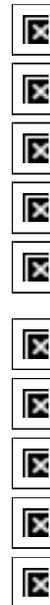
The Butler team moved their \$300,000 National Science Foundation research grant for the research to UT-Arlington's Nanofab Center in 2002. They first received the grant in 2000 and then a follow-up grant in 2001 while researching at Southern Methodist University.

"There have been quite a few projects and quite an interest in large sensor networks for a number of years," said Dean Neikirk, an electrical and computer engineering professor at the University. He said the main concept behind the research is to use sensor networks to gain more information about environments to better understand them.

"We're now working on flow and pressure sensors so we can have more sensory capability," Butler said.

To accomplish that, Celik-Butler said, "We're working on integrating infrared sensors and tactile sensors, [or touch sensors], on flexible substrates," which is the material to which the sensors are attached.

Butler said he hopes the technology will work and that

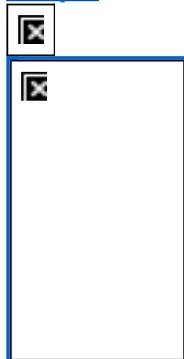


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people will benefit from it.

Butler made no specific predictions for the application of the technology, but said robotics is probably the primary field in which SmartSkin could be utilized.

Celik-Butler said, "We do see certain applications in medical and defense for real-time monitoring of environment and physiological science."



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