

Video: Wearable sensors to monitor triggers for asthma, and more

March 31 2015, by Miles O'brien



It looks like Fitbit for feet, but it's actually Google for gait, according to Stacy Bamberg, CEO and founder of Veristride. Veristride, a small business funded by NSF's Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program, is developing tools to help amputees rehab faster with gait analytics. Wearable insoles pair with walking data analytics to provide people with information about how they walk to improve their performance. At the 2015 International CES, Bamberg explained how the technology may help people track their biomechanics more accurately. Credit: National Science Foundation

What if you could wear something that would alert you when pollution, such as smog, is about to take its toll on your heart or lungs? That is what's "in the air" at the National Science Foundation- (NSF) supported Nanosystems Engineering Research Center (NERC) for Advanced

Systems of Integrated Sensors and Technologies (ASSIST) at North Carolina State University.

ASSIST Director Veena Misra and her multidisciplinary team are using nanotechnology to develop small, [wearable sensors](#) that monitor a person's immediate environment, as well as the wearer's vital signs.

These sensors would monitor [environmental concerns](#), such as ozone, [carbon monoxide](#) and nitrogen dioxide levels at the same time that they are monitoring vital signs, such as heart rate and hydration. The sensor's data would be transmitted wirelessly to the wearer's cell phone, and even to a doctor. The goal is to help people avoid exposure to the environmental conditions that exacerbate asthma and other health concerns.

The team is also developing devices that don't use batteries and instead harvest power from the human body, relying on heat and motion to generate the energy they require.

This multidisciplinary research involves various types of engineering, including textiles and chemical, as well as computer science and medicine.

Provided by National Science Foundation

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