

PHYSICS NEWS FLASH

**ORNL-UT Physicists Win R&D 100 Award**

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It may sound like part of Inspector Gadget's arsenal, but there's nothing cartoonish about SniffEx, a compact, low-cost vapor sensor designed to detect and locate a variety of explosives. The sensor was developed by Thomas Thundat, Lal Pinnaduwege, Tony Gehl, Vassil Boiadjev and Eric Hawk and David Hedden, all of whom work at Oak Ridge National Laboratory but have ties to the UT Physics Department as well. Eric Houser of the Naval Research Laboratory; Linda Deel of the Bureau of Alcohol, Tobacco, Firearms, and Explosives; and Richard Lareau of the Transportation Security Administration were also part of the development team.

In late June they learned SniffEx had won an R&D 100 Award, an honor presented each year by R&D Magazine in recognition of the year's most significant technological innovations.

SniffEx is a micromechanical transducer no wider than a human hair with a mass of only a few nanograms. It allows only explosive molecules to chemically adsorb to a sensor that can identify the molecule. Among the sensor's attributes are sub-part-per-trillion sensitivity and high selectivity. It has a response time faster than one second, is stable, small, and relatively inexpensive. The device actually runs on a nine-volt battery. SniffEx will have applications in counterterrorism, law enforcement, airport safety and humanitarian efforts such as landmine removal.