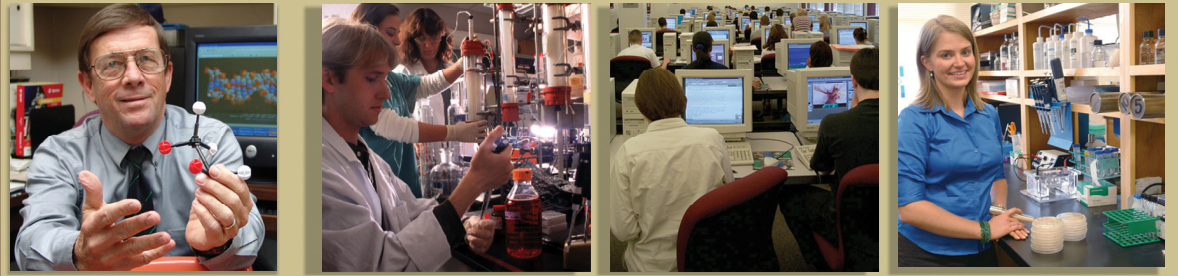




THE FLORIDA STATE UNIVERSITY

OFFICE OF IP DEVELOPMENT & COMMERCIALIZATION



Carbon Nanotube and Polymeric Thin Film Assemblies for Pressure Sensing and Mapping

Pressure/force sensing technologies are used in a broad range of applications. Many pressure/force sensors are available, but thin film sensors are limited. Currently, the most common film pressure sensors are either resistive or capacitive, which are both reusable. This new technology utilizes the rupture of microcapsules filled with dyes for pressure sensing to create a disposable thin film mapping product.

Applications

- Seat occupancy detection in the automobile industry
- Tactile feedback for robots to sense and respond to environments
- Rehabilitation progress monitoring in the medical industry
- Bite force mapping in dentistry
- Measuring force of golf grips

Advantages

- Disposable
- Low percolation threshold
- Detects low levels of pressure sensing
- Utilizes ionic conduction as the major sensing mechanism

Technology

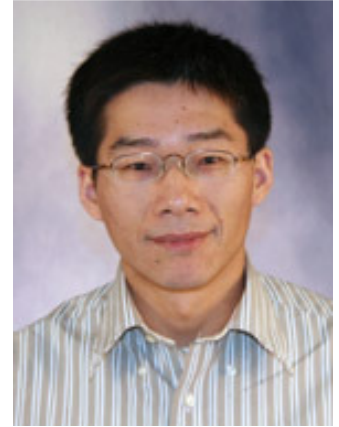
The sensing assembly is composed of a top and bottom element. The top element is made of elastomer-like polymer with grooves that are filled with polymer gel electrolyte and the bottom is made of patterned conducting material thin film strips on top of flexible polymer film. When pressure is applied, a deformation of the material in the top element causes the gel to come in contact with the film strips, which creates an ionic-conducting path.

Technology Opportunity

Technology Opportunity

The Inventors

Dr. Tao Liu received his Ph.D. from the Georgia Institute of Technology in 2002. Since joining the faculty at Florida State University, Dr. Liu has conducted research using carbon nanotube-based functional materials. His research is focused on processing-structure-property relationships of polymer and polymer nanocomposites and non-destructive optical characterization techniques.



For Licensing Opportunities Contact

Office of IP Development & Commercialization
2010 Levy Avenue, Suite 276-C
Tallahassee, FL 32306-2743
Jack Sams / E-Mail jsams@fsu.edu
Ph: (850) 645-0048
Fax: (850) 644-3675



THE FLORIDA STATE UNIVERSITY
OFFICE OF IP DEVELOPMENT & COMMERCIALIZATION

www.techtransfer.fsu.edu