Sensors used to measure force load under the foot rely on strain gauge technologies that are often inaccurate and expensive. The proposed technology is a conformable, biomechanical force sensor that increases accuracy and decreases costs. This novel sensor is comprised of a flexible and compliant substrate with discrete sensors and electronic circuitry embedded in a protective cushioning layer. The sensors includes power, measurement, calibration, and data communication functions compatible with load monitoring, force sensing for touch human or robotic interfaces, gait monitoring and shoe inserts for medical, prosthetic, and athletic performance evaluation.

- Improves accuracy of force load measurements.
- Stores measurement data.
- Reduces costs of sensor technology.
- Conforms to foot or other areas of the body comfortably.


Tomasz J. Petelenz, Ph.D., Research Associate Professor - Bioengineering
Robert J. Hitchcock, Ph.D., Graduate Chair - Bioengineering
Erika Vandersteen, Research Assistant