Abstract:
Veratag has developed a microelectromechanical systems (MEMS)-based approach to identification and authentication that is highly secure against cloning or spoofing. The microchip product is based upon research from the Craighead and Parpia groups at Cornell University, and is currently being developed by Veratag through a research grant from the National Science Foundation.

Summary of Research:
MEMS frequency spectra are used to uniquely identify individual chips (Figure 1). Owing to their narrow resonance bandwidth, no two MEMS resonators have the same frequency spectra. This property of uniqueness, due to fabrication variability, affords a method by which MEMS-based chips can be used to identify objects or authenticate entities with little chance of spoofing or counterfeiting. Applications are being pursued in a variety of areas including: industrial supply chain tracking, personnel identification, solid-state integrated digital rights management, and military lock-and-key.