PENNSTATE

Ben Franklin Technology PArtners
Central and Northern Pennsylvania

Announcing the formation of the

Ben Franklin Center of Excellence In Structural Health Monitoring

What is Structural Health Monitoring?

Structural health monitoring (SHM) is the act of assessing the well-being of a structure or system. It addresses whether the functionality of the structure or system has been diminished. Analysis of SHM data is used to determine fitness-for-service (diagnostics) and remaining useful life (prognostics). The name implies that these assessments can be performed upon demand by sensors that are built into or permanently affixed to the structure or system. SHM is an extension of periodic nondestructive evaluation and a replacement for schedule based maintenance. As such, it has the potential to improve the safety of the structure or system as well as to drastically reduce costs associated with maintenance. The goal of SHM is to keep the public as safe as practical using cost effective technologies. Advances in several technologies have positioned the multidisciplinary field on the verge of revolutionary improvements in public safety. Applications include civil structures, aerostructures, infrastructure, power generation, mechanical equipment, and even monitoring the health of biological structures such as the human body.

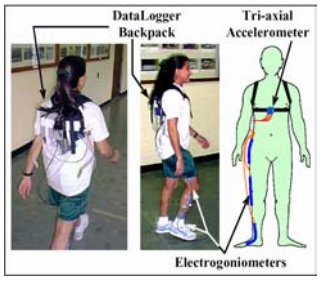
Center Mission: Improve public safety by advancing the state of the art in structural health monitoring and providing engineering technology for small and moderate sized PA companies

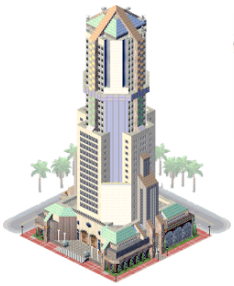
Center Goals:

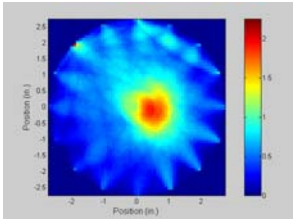
- Spur the research and development of new technologies that will improve public safety
- Transfer technology to PA companies to give them a competitive advantage
- Make PA a hotspot for structural health monitoring, creating a new high tech job market that will provide jobs for residents and draw people to PA
- Train students to provide an outstanding workforce pool

Penn State Participants:

Engineering Science and Mechanics – Cliff Lissenden, Judy Todd, Joe Rose, Joe Cusumano, Bernie Tittmann, Francesco Costanzo, Mirna Urquidi-Macdonald
Aerospace Engineering – Ed Smith
Civil Engineering – Ghassan Chehab, Maria Lopez de Murphy, Sunil Sinha
Applied Research Laboratory – Karl Reichard, Steve Conlon
Mechanical Engineering – Martin Trethewey
Electrical Engineering – Qiming Zhang
Food Science – John Coupland







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