The College of Engineering, Technology, and Architecture
University of Hartford
Presents a Discussion with NIST
National Institute of Standards & Technology
Energy and Environment Division

Dianne L. Poster, PhD
Special Assistant to the
Associate Director for Innovation & Industry Services
June 28, 2017
11:00

The National Institute of Standards and Technology: Supporting U.S. Competitiveness in the Design/Build Industry

The National Institute of Standards and Technology (NIST) is a historic, non-regulatory federal science agency, dating back to 1901. Since its inception, NIST continuously advances the nation's technology infrastructure for the welfare of our country. This talk will provide an overview of NIST with an emphasis on research pertaining to building structural health and safety monitoring. The Internet of Things is the next stage of the Internet and it involves autonomous communication between devices. These devices interact with each other and stream data for subsequent data analytics and optimization. Their communication is largely autonomous and there may be little or no interaction with the people they are supporting. There is significant new innovation and development in the monitoring of the built environment for energy efficiency, fire & safety conditions, structural integrity, wear and degradation, and usage. These all constitute the new concept of smart buildings or cybernetic building systems. This presentation will highlight the smart building technologies that are being developed by the NIST Energy and Environment Division of the NIST Engineering Laboratory. The development of measurement science, predictive models, and performance metrics to improve the energy efficiency of building components and systems, reduce building related carbon dioxide emissions, enhance the quality of the indoor environment, and improve the building design and construction process through the integration of information, communications, sensing, and automation technologies will be discussed. Highlights on the software package Building for Environmental and Economic Sustainability (BEES), which measures the life-cycle environmental and economic performance of building products which has had a major impact in the increasingly popular field of healthy and sustainable buildings.