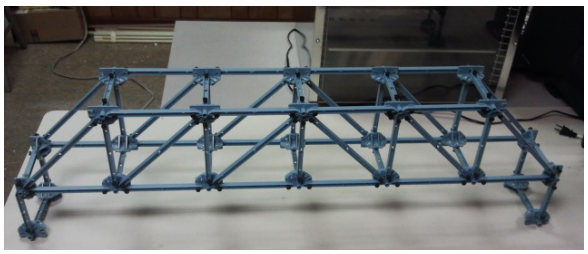
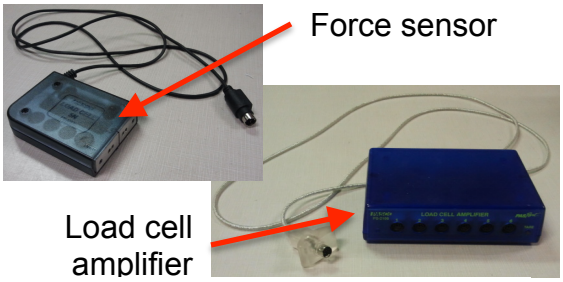
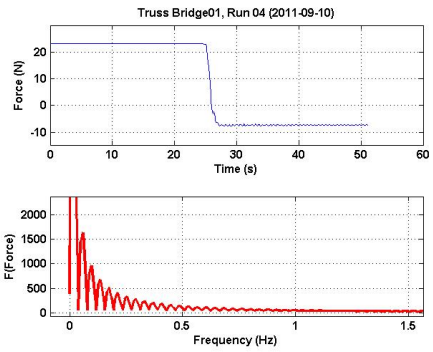
Structural Health Monitoring of a Truss Bridge using Model Test and Numerical Simulation

- **Abstract:** Structural health monitoring (SHM) represents an important approach for civil engineers to assess the condition of aging structures. In this research, a truss bridge was built and numerically modeled by SAP2000® to relate artificial damage with the dynamic response of the bridge.

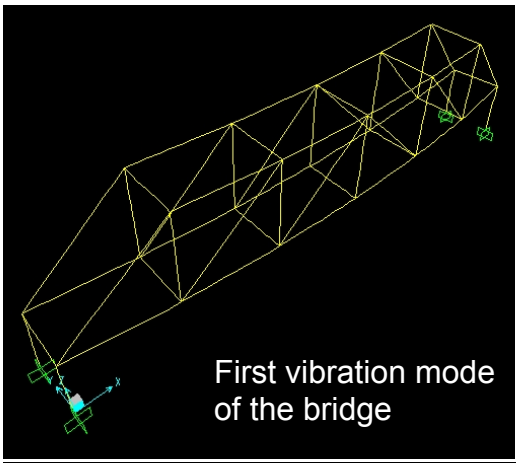


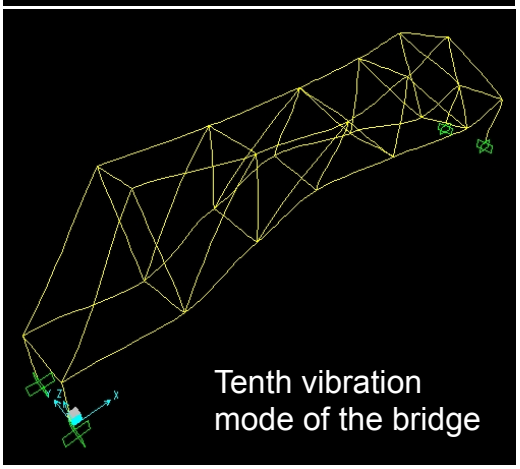
- **Dynamic response measurement:** Pasco® force sensors, load cell amplifier, PowerLink Data Acquisition System and DataStudio software





- **Numerical simulation:**





- **Conclusions:** Dynamic response of structures in both time and frequency domains provides insightful information about the structural condition. Denoising techniques are important to remove background noise when using dynamics techniques.

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- **Ref:**

- **Otchere-Nyarko**, J., Master's Thesis, Dept. of Civil & Envir. Eng, UMass Lowell, June, 2011.

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