

Grand Challenge Research
on
Bio-inspired Monitoring and Warning Systems for Earthquakes

by
Chin-Hsiung Loh, Professor
Department of Civil Engineering, National Taiwan University, TAIWAN

- Integrating techniques from signal processing, control theory and statistical analysis for “seeing” damage in civil infrastructures;
- Develop new paradigms for the science of information acquisition and processing to facilitate monitoring, assessment, and control of complex civil infrastructure systems in sensor rich environments;
- Develop distributed control strategies that use MEMS devices to interact with macro-scale objects;
- Investigate the fault tolerant control system. Evaluate the ability of the controller to reduce the structural control responses when reduced information is available for control action determination.
- Develop adaptive nonlinear system identification techniques and structural control algorithms;