

Smart Structures Laboratory

(Former Structural Health Monitoring Laboratory)

Rm ZB108, Block Z,

Department of Civil and Environmental Engineering,

The Hong Kong Polytechnic University



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學



DEPARTMENT OF
CIVIL AND ENVIRONMENTAL ENGINEERING
土木及環境工程學系

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Introduction

The Smart Structures Laboratory (Former Structural Health Monitoring Laboratory) provides facilities for research and teaching. The floor area is 40m². A comprehensive range of modern testing equipments are provided for structural control and health monitoring.

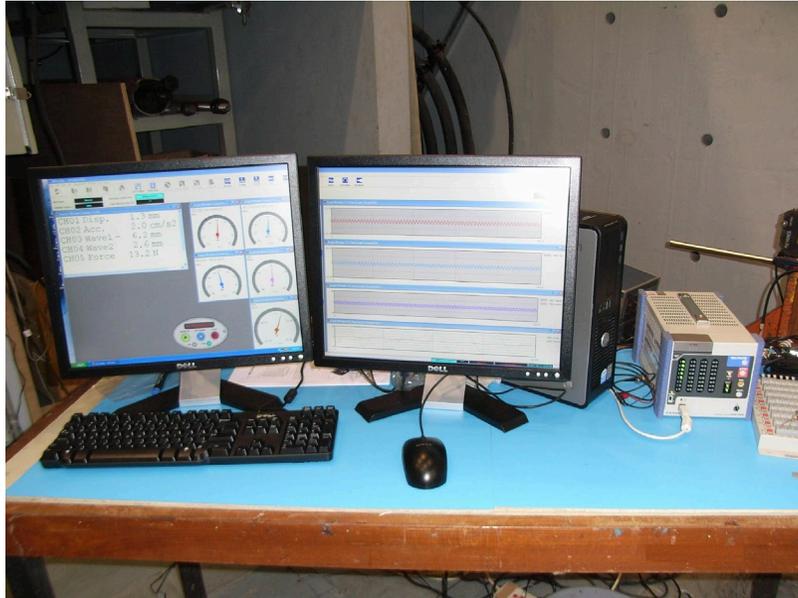
The laboratory has supported a series of health monitoring projects in Hong Kong and mainland, including the monitoring of ShenZhen Stock Exchange, Canton Tower, New CCTV tower, train induced vibration to water pipe.

It houses major and teaching equipment including:

- > Kyowa multi-channel data acquisition systems
- > Multi channels MIO optical interrogator
- > Hardness test machine
- > Creep test machine
- > Impact test machine

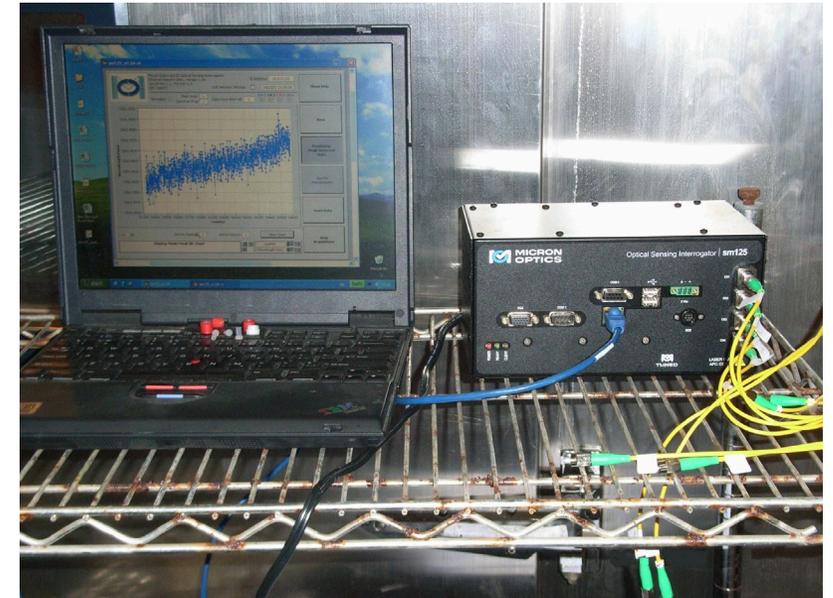


Main Equipment



Kyowa multi-channel data acquisition systems

The KYOWA Data Acquisition System (DAQ) provides simultaneous measurements of dynamic variables ranging from strain/stress to load, acceleration, displacements and frequency. It also allows real-time monitoring to enable smooth measurement under the professional judgment and control.



Multi channels MOI optical interrogator

The Optical Sensing Interrogator is a compact, field proven, industrial grade dynamic sensor interrogation module designed for robust, reliable, long term field operation.

Main Equipment



Hardness Test Machine

A direct reading Rockwell Testing Machine. To help students determine the hardness number of several specimens of metal by Rockwell test.



Creep Test machine

A SM106 Creep Test machine with a digital dial gauge attached, using hanger and standard weights. To help students determine the creep behavior of materials at room temperature under various stress levels.



Impact Test Machine

An Impact Tester with readings showing the energy absorbed by a specimen under impacted by a hammer of the machine using the Izod impact method. To help students understand the toughness of different metals, and demonstrate the impact effects.

Academic Staff

(listed per sequence in CEE website Academic Staff)



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Research Highlight

Structural Health Monitoring on GuangZhou TV Tower



Structural Health Monitoring on GuangZhou TV Tower



Research Highlight

Structural Health Monitoring on ShenZhen Stock Exchange



Structural Health Monitoring on ShenZhen Stock Exchange



Research Highlight

Vibration Measurement on Mainland to Hong Kong water pipe
– Water Works Department



Vibration Measurement on Mainland to Hong Kong water pipe
– Water Works Department

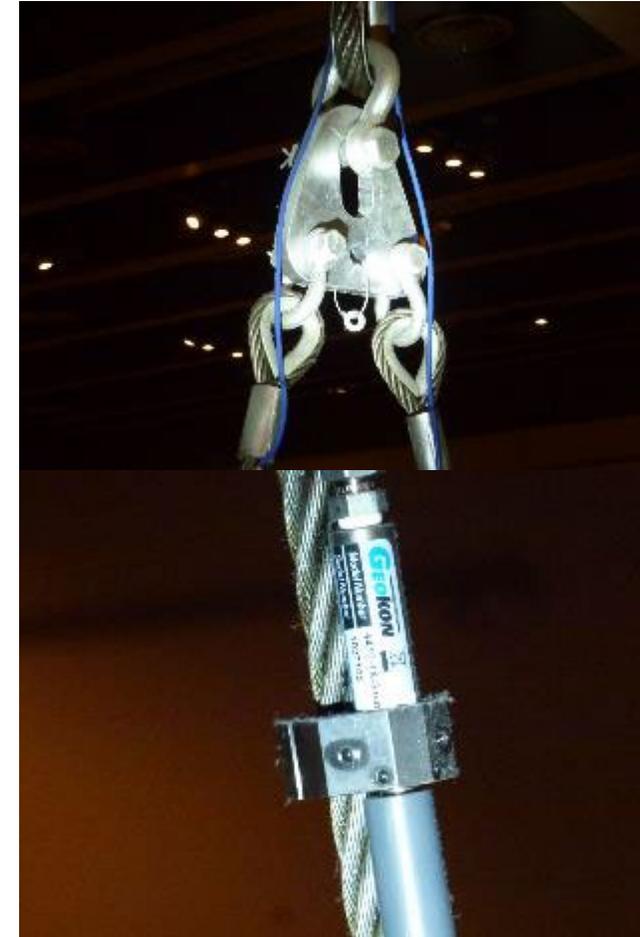


Research Highlight

Structural Health Monitoring on DC-3 lifting garage
– H.K. Science Museum



Structural Health Monitoring on DC-3 lifting garage
– H.K. Science Museum



Lab-in-charge and Technical Staff

Lab-in-Charge



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Opening Hours

Monday 8:45am – 12:30pm, 1:30pm – 5:45pm

Tuesday to Friday 8:45am – 12:30pm, 1:30pm – 5:30pm
(excluding Saturday, Sunday & public holidays)