

International Workshop on Structural Health Monitoring 2013 “A Roadmap to Intelligent Structures”

Stanford University, Stanford, CA
September 10-12, 2013

Major topics for the workshop include, but are not limited to:

Sensor, Actuator, Multifunctional Materials

- Integrated sensors, wireless sensors, “smart” sensors, fiber optics, piezoelectrics, shape memory alloys/polymers, MEMS sensors and micro-actuators, nano-sensors, etc.

Sensor Network/System Integration

- Bio-inspired sensing networks, remote and wireless communication, self-diagnostic network, self-repairing and fault-tolerance network, advanced manufacturing for structures with built-in sensors, hardware/software integration, durability/reliability of sensors and sensor network systems, etc.

Signal Processing/Monitoring/Diagnostics

- Advanced signal processing, Wavelet techniques, data mining/fusion, statistics-based signal processing methods, innovative environmental compensation techniques, baseline free methods, neural network techniques, genetic algorithms, machine learning, inverse techniques, etc.

Prognostics/Health Management/CBM+

- Data-driven residual strength and life prediction, integrated structural health management, SHM-based condition assessment of critical structures, etc.

Modeling/Simulations/SHM-based Design

- Global-local analyses, modeling of sensor/structural responses, multifunctional design optimizations, innovation in integrated sensor/structure design, design methodology-based SHM, smart structures, etc.

Implementation/Validation/Certification

- Quantification techniques, probability of detection, reliability methods, validation/certification methods, etc.

Applications-

Autonomous Monitoring/Intelligent Structures

- Civil infrastructures: Bridges, highway systems, buildings, power plants, underground structures, etc.
- Aircraft and missile structures: Rotorcraft, aircraft, unmanned vehicles (UAV), engines, rocket motor cases, etc.
- Space structures: Satellites, space stations, reusable launch vehicles, exploration vehicles, space robots, etc.
- Land/Marine/Offshore structures: Automobiles, trains, submarines, ships, offshore structures, etc.
- Medical devices: Implants, health monitoring devices, etc.

Theme of Workshop

The purpose of the workshop is to assess the current state-of-the-art technologies in this field and to discuss and identify

key and emerging issues in research and development that are critical and unique in structural health monitoring. The workshop is also intended to promote communication exchange and cross-fertilization between multiple disciplines.

Technical presentations will be made by invited and selected distinguished speakers, and plenary discussions on the future direction and the “road-map” will be organized. Potential applications of the techniques to military and civilian structures will be discussed. An exhibition area will be available for product and technology demonstrations.

Time Table

Abstract Due	February 1, 2013
Acceptance Notification By	March 1, 2013
Full-Length Paper Due	May 1, 2013
Workshop	Sept. 10-12, 2013

Abstract

Please send a succinct one-page abstract that clearly describes the contents of the proposed paper. A complete abstract should include the following:

- Title
- Author’s name, affiliation, title, address, phone number, fax number, and e-mail address (e-mail is very important)
- Abstract (300 words minimum) and key figure(s).

****If you are a new member, please register first at http://young-sacl.stanford.edu/register_member.php
Then send in your abstracts online at <http://young-sacl.stanford.edu/index.php>
as a pdf file***

A special volume of the Proceedings will be published. For any further information, please check the workshop website at <http://structure.stanford.edu/workshop> or contact **Prof. Fu-Kuo Chang** (Workshop Organizer) at Department of Aeronautics and Astronautics Stanford University, Stanford CA 94305 fkchang@stanford.edu
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