Non-Destructive Testing International Winter School 2016 in Sendai/Japan

Organized by

- *JSPS Core to Core Program (A. Advanced Research Networks)*
  International Research Core on Smart Layered Materials and Structures for Energy Saving
- *Innovative Energy Research Center, Institute of Fluid Science, Tohoku University*
- *Tohoku University Fundamental Research and Human Resources Development Program towards the Decommissioning of Nuclear Power Plants*
- *Japan Society of Maintenology, Tohoku-Hokkaido Chapter*
- *The Japan Society for Non-Destructive Inspection*

Date： March 8th (Tue.) to 15th (Tue.), 2016

Venue： Institute of Fluid Science, Tohoku University

Fee: 60,000 JPY

20,000 JPY (Local students)

Deadline for application: February 12, 2016 (see the attached application form)

"International Research Core on Smart Layered Materials and Structures for Energy Saving" aims at developing a novel form of intelligent structures through the fusion between functional multi-materials and sensing technologies. Within this context we organize an international research team consisting of Tohoku University, Universities in Lyon, Fraunhofer Institute for NDT, Saarland University, Nanjing University of Aeronautics and Astronautics and KTH Royal Institute of Technology, and accelerate the development of smart layered materials and structures for energy saving. Within the context of smart layered materials, materials and structures with integrated sensing functions play a significant role because those will allow a material and structure to monitor its own condition. Hence in that context materials and structures can be used more efficiently not just in terms of their performance but also their endurance, leading to energy savings at very large scales. In this framework and context the 1st Non-Destructive Testing International Winter School was held in Saarbrücken/Germany in 2015 to foster younger researchers who promote research in nondestructive testing and structural health monitoring. The topic there was addressed to monitoring of ageing steel infrastructure and was very much welcomed by the participants originating from countries such as Algeria, Bulgaria, China, France, Germany, India, Indonesia, Iran, Japan, Lebanon, Paraguay, and Taiwan.

This year we focus on nuclear decommissioning at the Fukushima Nuclear Power Plants where we will

consider very difficult tasks in extreme environments, and learn and elaborate on how NDT and structural health monitoring techniques can enhance nuclear decommissioning.

Scope

The NDT Winter School is an international event mainly driven by the following four academic institutions:

- Saarland University, Saarbrücken / Germany
- INSA Lyon / France
- Nanjing University of Aeronautics and Astronautics, Nanjing / China
- Tohoku University, Sendai / Japan

It specifically addresses students at postgraduate level targeting at a master's or doctoral degree. Academic lectures and practical sessions will be provided being related to introduction of nuclear power generation, the current situation of the Fukushima nuclear power station, system safety evaluation, fracture mechanics, robotics as well as an overview on NDT techniques. Along this students will perform a project work in terms of problem-based learning being related to 1) system safety and inspection, 2) robotics and inspection, 3) fracture mechanics and inspection. The winter school will be complemented with an industrial visit to the Tokai Power Station (The Japan Atomic Power Company) under decommissioning and the Japan Atomic Energy Agency, one of the key research institutes for atomic energy in Japan. Social events and a local sightseeing tour will be also held.