

## JSSE holds the 1<sup>st</sup> International Conference on Spring Technologies

Dec. 11, 2015

As a local committee of International Committee for International Conference on Spring Technologies, Japan Society of Spring Engineers (JSSE) held the 1<sup>st</sup> International Conference on Spring Technologies (ICST-1), including a welcome reception, a poster session and an exhibition at Meiji University and Akihabara UDX in Tokyo on November 16<sup>th</sup> through 18<sup>th</sup>.

### Welcome Reception

Welcome Reception was held at Miyagi Kozo Hall in Liberty Tower on the Surugadai Campus of Meiji University on Nov. 16. The opening speech was presented by Mr. Mark Hayes, the proprietor of Spring Expert in U.K. Mr. Isao Kato, a member of the local committee and working for Japan Spring Manufacturers Association (JSMA), performed Rakugo, Japanese traditional comic storytelling, and magic to entertain 73 attendees.



Mr. Hayes



Mr. Kato



Miyagi Kozo Hall

### Oral Session

On Nov. 17, fifteen general lectures and one special topic lecture were presented to 161 attendees from 7 countries in the Type S Area of UDX Gallery. The opening speech was presented by Dr. Katsuji Tosha, the ICST-1 chairperson and an adviser to JSSE.



Dr. Tosha

### Titles of General Lectures and Presenters

1. Effect of Silicon, Chromium and Molybdenum on Resistance to Temper Softening of High Carbon Martensitic Steel, by Shinya Teramoto of Nippon Steel & Sumitomo Metal Corporation.
2. Influence of Temperature on the Fatigue Strength of Disc Springs and Stacks of Disc Springs, by Andre Spies of Technische Universitaet Darmstadt.
3. Improvement of Torsional Fatigue Limit by Shot Peening for Spring Steel Containing a Crack-Like Surface Defect, by Koji Takahashi of Yokohama National University.
4. Threshold Stress Intensity Factor of Crack Propagation of Delayed Fracture for Spring Steel and Design Method for Preventing Delayed Fracture, by Yurika Goto of NHK Spring Co., Ltd.
5. Evaluating Compressive Residual Stress Depth Distribution by Eddy Current, by Yoshiyasu Makino of Sintokogio, Ltd.

6. The Difficulty to Calibrate an X-ray Diffractometer to Measure Residual Stresses. Is an Absolute Precise Measurement Possible?, by Eckehard Mueller of Bochum University of Applied Sciences.
7. Evaluation of the Fatigue Process of Type 316 by Positron Annihilation Lifetime Spectroscopy, by Naoya Uesugi of Toyo Seiko Co., Ltd.
8. Current Developments in the Experimental Durability Evaluation of Coated Coil Springs under Realistic Loading, by Sebastian Hoffmann of IABG mbH.
9. Finite Element Simulation of Shot Peening on Helical Springs, by Ulf Kletzin of Ilmenau Technical University.
10. On the Effects of Heat Treatment on the Properties of Compression Springs, by Mark Hayes of Spring Expert.
11. In-Process-Quality-Control with Temperature Controlled Spring-End-Grinding, by Uwe-Peter Weigmann of Wafios AG.
12. Developing a Complete Simulation Environment on the Example of Coil Springs, by Anders Winkler of Dassault Systems AB.
13. Reverse Engineering Based Trunk Lid Torsion Bar Design Method, by Nobuhisa Yasuda of NHK International Corporation.
14. Optimum Design Approaches for Disk Springs, by Madoka Kuno of Chuo Spring Co., Ltd.
15. The Optimal Design of a Side Load Helical Spring for MacPherson Vehicle Suspension System, by Wen Huang of Yanshan University.



Type S Area of UDX Gallery

### Special Topic Lecture

Title: Development of Fuel Cell Vehicle in Toyota  
Lecturer: Seji Sano of Toyota Motor Corporation



Mr. Sano

Closing speech was made by Dr. Yuji Nakasone, the chairperson of JSSE and a professor of Tokyo University of Science.



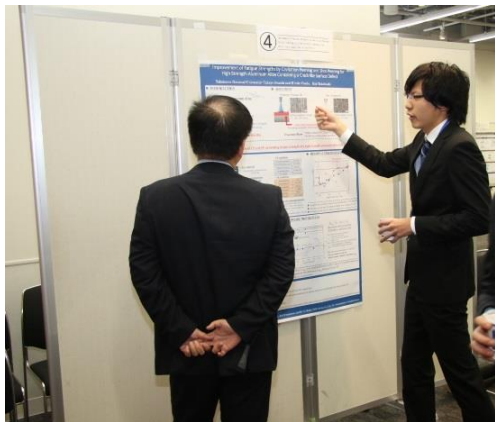
Dr. Nakasone

### Poster Session

Five technical posters were displayed in the Type N Area of UDX Gallery and discussions between presenters and participants were made during coffee breaks and lunch time. Titles and primary presenters of the posters were as follows:

1. Influence of Alloying Element on Corrosion Fatigue Life of Spring Steels, by Kosuke Kimura of Daido Steel Co., Ltd.
2. Prediction of Fatigue Limit Improvement and Rendering Crack Harmless by Peening for Welded Joint Containing a Crack at the Weld Toe Zone, by Ryutaro Fueki of Yokohama National University.
3. General Analytic Trajectory Function of Cam Profile to Suppress Residual Oscillation in Automation and Its Relation to Input Shaper, by Shigeo Kotake of Mie University.
4. Improvement of Fatigue Strengths by Cavitation Peening and Shot Peening for High Strength Aluminum Alloy Containing a Crack-like Surface Defect, by Takaya Suzuki of Yokohama National University.

5. The Key Technology Research on Hot Formed Helical Compression Springs – International Standard of Technical Specifications, by De-cheng Wang of China Academy of Machinery Science and Technology.

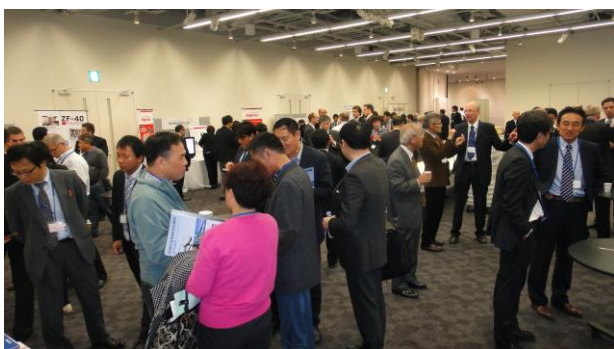


Poster No. 4

**Exhibition**

Six companies and one institute exhibited their products and/or panels in the Type N Area of UDX Gallery along with the technical posters to introduce their technologies to the participants.

- 1) Toyo Seiko Co., Ltd.
- 2) Sintokogio, Ltd.
- 3) Shinko Machine Tool Co., Ltd.
- 4) Hoko Engineering Co., Ltd.
- 5) Pulstec Industrial Co., Ltd.
- 6) Nippon Steel & Sumikin SG Wire Co., Ltd.
- 7) Society of Shot Peening Technology of Japan



Type N Area of UDX Gallery

**Banquet**

A banquet was held in the Type N Area of UDX Gallery after the closing of the oral session. Mr. Wolfgang Hermann, Executive Director of Verband der Deutschen Federnindustrie (VDFI) made a welcome speech, followed by a toast by Mr. Kanji Inoue, Executive Director of JSMA.



Mr. Hermann



Mr. Inoue

Koto, a traditional Japanese musical instrument, performance was given by a professional Koto player, Ms. Miho Yoshiba.



Ms. Yoshiba

**Optional Excursion**

In the morning of November 18, fifteen participants gathered near Akihabara UDX and visited the following four popular tourist destinations near Mt. Fuji by a chartered bus.

1. Narusawa Ice Cave
2. Kitaguchihongu Fuji Sengen Shrine
3. Oshino Hakkai
4. Lake Yamanaka

Unfortunately, Mt. Fuji did not show its beautiful shape because of a bad weather but they enjoyed traditional Japanese meal of “sukiyaki” or “hoto” during the lunch.



Inside of the Ice Cave



At the entrance of the Ice Cave



Lunch at a restaurant by Lake Kawaguchi



Kitaguchihongu Fuji Sengen Shrine



Oshino Hakkai