

1st International Conference on Maintenance Science and
Technology for Nuclear Power Plants (1st ICMST)

Program

Plenary Lectures

Ichijo Hall

November 12, 2012

9:20-9:50

Chair: Tetsuo SHOJI (Tohoku University)

P-1

Engineering for Maintenance and Resilience in Complex Systems

Naoto SEKIMURA (The University of Tokyo)

Ichijo Hall

November 13, 2012

9:30-10:10

Chair: Toshiyuki TAKAGI (Tohoku University)

P-2

**Operational Experience Events related to Maintenance of Nuclear Power
Plants**

Michel BIETH (European Commission),

Benoit ZERGER (European Commission), Ulla VUORIO (STUK)

Ichijo Hall

November 14, 2012

9:30-10:10

Chair: Fumio KOJIMA (Kobe University)

P-3

**LWR Sustainability : Assessment of Aging of Nuclear Power Plant Safety
Related Concrete Structures**

Herman L. GRAVES III (USNRC), Dan J. NAUS (ORNL)

Keynote Lecture

Ichijo Hall

November 14, 2012

10:10-10:50

Chair: Hiroshi MIYANO (Hosei University)

K-1 **Current Status & Challenges for Decommissioning of Fukushima Dai-ichi
Nuclear Power Plants**

Shunichi. SUZUKI (Tokyo Electric Power Company)

Panel Discussion

Ichijo Hall

November 14, 2012

15:30-17:50

Coordinator: Naoto SEKIMURA (The University of Tokyo)

Panel Participants:

JAPAN	Naoki CHIGUSA, Kumiaki MORIYA
USA	Herman GRAVES, Douglas CHAPIN
EU (Germany)	Gerd Dobmann
China	Zhengcao LI

Invited Lectures

Ichijo Hall

November 12, 2012

Chair: Takayuki AOKI (Tohoku University)

I-1 **Assuring Safety in Operation of Japanese Nuclear Power Plants**

10:00-10:40 Douglas M. CHAPIN (MPR Associates)

Seihoku Gallery

November 12, 2012

Chair: Masahide SUZUKI (JAEA)

I-2 **Plant Maintenance Oriented Research at the OECD Halden Reactor Project**

10:00-10:40 Carlo VITANZA (OECD/Halden)

Ichijo Hall

November 12, 2012

Chair: Yoshinori KITSUTAKA (Tokyo Metropolitan Univ.)

I-3 **Research and Strategy of Material Aging Management for Nuclear
Power Plants in Korea**

Yong Hwan JEONG (KAERI),

Jae Gon LEE(KHNP), Chang Heui JANG(KAIST), Il Soon

HWANG(SNU), Sung Gyu JUNG(KEPCO E&C),

Bong Sang LEE (KAERI), Seong Sik HWANG(KAERI)

Seihoku Gallery

November 12, 2012

Chair: Yutaka WATANABE (Tohoku Univ.)

I-4 **Activities of Nuclear Materials Research Concerning Ageing**

13:50-14:30 **Management and Safety of Nuclear Energy Systems**

Zhengcao LI (Tsinghua University), Dongyue CHEN (Tsinghua University), Li

LIU (Tsinghua University), Guma YELI (Tsinghua University), Naoto

SEKIMURA (The University of Tokyo), Tadashi MARUYAMA (IAEA)

Ichijo Hall

November 13, 2012

Chair: Koji OKAMOTO (The Univ. of Tokyo)

I-5 **Design for Plant Maintenance/Modification in US to Address**
13:50-14:30 **Post-Fukushima Lessons Learned**
 Nirmal JAIN (Westinghouse Electric Company)

Seihoku Gallery

November 13, 2012

Chair: Kazunori MORISHITA (Kyoto Univ.)

I-6 **Maintenance Technologies in the Kansai Electric Power Company**
13:50-14:30 Ippei UEYAMA (The Kansai Electric Power Co., INC.)

Ichijo Hall

November 14, 2012

Chair: Douglas M. CHAPIN (MPR Associates)

I-7 **U.S. Department of Energy Light Water Reactor Sustainability**
10:10-10:50 **Program**
 Richard REISTER (U.S. Department of Energy),
 Kathryn MCCARTHY (Idaho National Laboratory),
 Donald WILLIAMS (Oak Ridge National Laboratory)

Seihoku Gallery

November 14, 2012

Chair: Fumio KOJIMA (Kobe Univ.)

I-8 **Modern Statistical Methods with Uncertainty Quantification for Analysis of**
Inspection Data
10:10-10:50 Jeremy KNOPP (Air Force Research Laboratory)

Sessions
M1: Plant Safety

Ichijo Hall

November 12, 2012

Chair: Akira YAMAGUCHI (Osaka Univ.), Douglas M. CHAPIN (MPR Associates)

- M1-1 **Study of System Safety Evaluation on LTO of National Project**
11:10-11:30 - **Basic Concept of Functional Degradation and System Safety Assessment of Nuclear Plants in Operation-**
Hiroshi MIYANO (Hosei University), Akira YAMAGUCHI (Osaka University), Kazuyuki DENACHI (The University of Tokyo), Masaaki MATSUMOTO (Mitsubishi Research Institute, Inc.)
- M1-2 **Configuration Risk Management in Korean Standard Nuclear Power Plants**
11:30-11:50 Hojun JEON (Korea Hydro & Nuclear Power Co.)
- M1-3 **Development of a Web-based System for Outage Risk Management**
11:50-12:10 Kiin BAHNG (Korea Hydro & Nuclear Power Co.), Moongoo CHI (Korea Hydro & Nuclear Power Co.), Hojun JEON (Korea Hydro & Nuclear Power Co.)
- M1-4 **“ Anzen ” and “ Hozen ” based on Defense in Depth Approach**
12:10-12:30 Akira YAMAGUCHI (Osaka University)

M2: Seismic and Tsunami PSA

Seihoku Gallery

November 12, 2012

Chair: Toru IJIMA (JNES), Yong Hwan JEONG (KAERI)

M2-1 **Standardized Procedure for Tsunami PRA by AESJ**

11:10-11:30 Yukihiro KIRIMOTO (Central Research Institute of Electric Power Industry),
Akira YAMAGUCHI (Osaka University), Katsumi EBISAWA (Japan
Nuclear Energy Safety Organization)

M2-2 **Failure Mechanism of Coastal Structures due to Tsunami Power**

11:30-11:50 Taro ARIKAWA (Port and Airport Research Institute), Nobutaka ISHIKAWA
(National Defense Academy)

M2-3 **Seismic Safety Evaluation of Air-cooled Emergency Electric Power Supply
Equipments**

11:50-12:10 Masakatsu INAGAKI (Japan Nuclear Energy Safety Organization),
Toru IJIMA (Japan Nuclear Energy Safety Organization)

M2-4 **Failure Probability Analysis of Aged Piping Considering Seismic Stress**

12:10-12:30 Yinsheng LI (Japan Nuclear Energy Safety Organization),Kazuya
OSAKABE (Mizuho Information & Research Institute)

M3: Ageing Management & Fatigue Issues

Ichijo Hall

November 12, 2012

Chair: Naoto KASAHARA (The Univ. of Tokyo), Gerd DOBMANN (IZFP)

M3-1 **Development and Validation of a Method to Measure Vibrational Stress of Small-Bore Piping Using Contactless Displacement Sensors**

14:50-15:10

Takashi TSUJI (Institute of Nuclear Safety System, Inc.), Akira MAEKAWA (Institute of Nuclear Safety System, Inc.), Tsuneo TAKAHASHI (Institute of Nuclear Safety System, Inc.)

M3-2 **Re-examination of Grand Design for Fatigue Evaluation**

15:10-15:30

Takao NAKAMURA (Osaka University),
Tomohide NISHI (Osaka University),
Masayuki KAMAYA (Institute of Nuclear Safety System, Inc.)

M3-3 **Plan and Status of Development of Design Fatigue Curves**

15:30-15:50

Seiji ASADA (Mitsubishi Heavy Industries, Ltd.), Akihiko HIRANO (Hitachi-GE Nuclear Energy, Ltd.), Masao ITATANI (Toshiba Corporation), Takehiko SERA (The Kansai Electric Power Company, Inc.), Munehiko YASUDA (Yokohama National University), Hideo KOBAYASHI (Yokohama National University)

M3-4 **Development on Fatigue Assessment Method based on Flaw Tolerance Concept**

15:50-16:10

Seiji ASADA (Mitsubishi Heavy Industries, Ltd.), Shuhei TAKEDA (TEPCO Systems Corporation), Taiji HIRASAWA (Central Research Institute of Electric Power Industry), Toshiyuki SAITO (Toshiba Corporation), Itaru SAITO (Japan Nuclear Technology Institute), Koji DOUZAKI (The Japan Atomic Power Company)

M4: Material Design

Seihoku Gallery

November 12, 2012

Chair: Yutaka WATANABE (Tohoku Univ.), Zhengcao LI (Tsinghua Univ.)

M4-1 **Theoretical Investigation of Oxidation Mechanism of Fuel Cladding in**

14:50-15:10 **Light-Water Reactor**

Yasunori YAMAMOTO (Kyoto University),
Kazunori MORISHITA (Kyoto University),
Hirotomo IWAKIRI (University of the Ryukyus),
Yasunori KANETA (Akita National College of Technology)

M4-2 **Small-Scale Yielding Conditions in Consideration of a Steep Distribution of**
15:10-15:30 **Stress**

Tetsuo YASUOKA (Tokyo Institute of Technology), Yoshihiro MIZUTANI
(Tokyo Institute of Technology), Akira TODOROKI (Tokyo Institute of
Technology)

M4-3 **Effect of Microstructure on Stress Corrosion Cracking Behavior near the**
15:30-15:50 **Fusion Boundary of Dissimilar Weld Joint with Alloy 182-A533B Low Alloy**
Steel

Hiroshi ABE (Tohoku University), Makoto ISHIZAWA (Tohoku University),
Yutaka WATANABE (Tohoku University)

M4-4 **Inspection and Flaw Evaluation for Stress Corrosion Cracking in Axial**
15:50-16:10 **Direction of Cylindrical Components in a BWR Plant**

Takushi FUJINO (The Japan Atomic Power Company), Takeshi TERAKADO
(The Japan Atomic Power Company), Koji DOZAKI (The Japan Atomic
Power Company), Kunihiro HASEGAWA(The Japan Atomic Power
Company) , Nobuo ITO (The Japan Atomic Power Company)

M5: Advanced NDT (1)

Ichijo Hall

November 12, 2012

Chair: Mitsuru UESAKA (The Univ. of Tokyo), Zhenmao CHEN (Xi' an Jiaotong Univ.)

- M5-1 **Degradation and Failure of RPV Support Skirt Anchor**
16:30-16:50 **Bolts at Taipower's Kuosheng Nuclear Power Station**
Yi-Bin CHEN (Atomic Energy Council,Taiwan), Ta-Kang HSIUNG (Atomic Energy Council,Taiwan), Shen-Yu LAI (Atomic Energy Council,Taiwan), Ting CHOW (Atomic Energy Council. Taiwan)
- M5-2 **Introduction of Smart Condition Monitoring for Ball Bearings by Hybrid**
16:50-17:10 **Diagnosis**
Masahiko KAWABATA (Tribotex Co.,Ltd), Naoki YOSHIDA (Tribotex Co.,Ltd), Toru KAMIYA (Tribotex Co.,Ltd) Yasushi ABETA (Tribotex Co.,Ltd)
- M5-3 **A Study on the Distribution of Electric Conductivity around a Stress**
17:10-17:30 **Corrosion Crack**
Zhenmao CHEN (Xi' an Jiaotong University), Taihuk HUANG (Xi' an Jiaotong University), Li WANG (Xi' an Jiaotong University), Noritaka YUSA (Xi' an Jiaotong University)
- M5-4 **Commissioning of Portable 950 keV/3.95MeV X-band Linac X-ray Source for**
17:30-17:50 **on-site Transmission Testing**
Mitsuru UESAKA (The University of Tokyo),Ming JIN (The University of Tokyo), Wenjing WU (The University of Tokyo), Katsuhiko DOBASHI (The University of Tokyo), Takesi FUJIWARA (The University of Tokyo), Jyuichi KUSANO (Accuthera Co.), Naoki NAKAMURA (Accuthera Co.), Masashi YAMAMOTO (Accuthera Co.), Eiji TANABE (Accuthera Co.), Seiji OHYA (Mitsubishi Chemical),Yukiya HATTORI (Hitachi Engineering & Service), Itaru MIURA (Mitsubishi Chemical)

M6: Irradiation & RPV

Seihoku Gallery

November 12, 2012

Chair: Kunio ONIZAWA (JAEA), Carlo VITANZA (OECD/Halden)

M6-1 **Reactor Pressure Vessel Integrity of Genkai Unit 1**

16:30-16:50 Yasushi NAKAMUTA (Kyushu Electric Power Co., Inc.), Gou NOZAKI
(Kyushu Electric Power Co., Inc.), Shinji WATANABE (Kyushu Electric
Power Co., Inc.), Yasuyuki YAMASHITA (Kyushu Electric Power Co., Inc.),
Toshiya SARUWATARI (Kyushu Electric Power Co., Inc.),

M6-2 **Research on Degradation in Reactor Materials Using Ion Accelerators**

16:50-17:10 Kenta MURAKAMI (The University of Tokyo), Hiroaki ABE
(Tohoku University), Takeo IWAI(The University of Tokyo),
Yoshihisa NAKAZONE (The University of Tokyo), Naoto SEKIMURA
(The University of Tokyo)

M6-3 **Study on the Structural Integrity of RPV Using PFM Analysis Concerning
Inhomogeneity of the Heat-Affected Zone**

17:10-17:30 Jinya KATSUYAMA (Japan Atomic Energy Agency), Koichi MASAKI (Japan
Atomic Energy Agency), Kunio ONIZAWA (Japan Atomic Energy Agency)

M6-4 **Recent High Fluence Surveillance Data and Re-calibration of Embrittlement
Correlation Method for the Japanese Reactor Pressure Vessel Steels**

17:30-17:50 Naoki SONEDA (Materials Science Research Laboratory),
Shohei SAKAGUCHI (Kansai Electric Power Company), Gou NOZAKI
(Kyushu Electric Power Company)

T1:Short Oral Presentation (Poster)

Seihoku Gallery

November 13, 2012

Chair: Noritaka YUSA (Tohoku Univ.) , Shigeru TAKAYA (JAEA)

T2: Lesson Learned from Fukushima Accident

Ichijo Hall

November 13, 2012

Chair: Tadashi NARABAYASHI (Hokkaido Univ.), Jain NIRMAL (Westinghouse)

T2-1 Damage of Onagawa NPS in 3.11 Earthquake / Tsunami and Safety Measures

11:10-11:30 Hiroaki KIKKAWA (Tohoku Electric Power Co., Inc.), Kunihiro SATO
(Tohoku Electric Power Co., Inc.), Akira SATO (Tohoku Electric Power Co.,
Inc.)

**T2-2 Measures for the Safety of KEPCO's NPPs based on the Findings of the
Fukushima Daiichi Accident**

11:30-11:50 Kensuke YOSHIHARA (The Kansai Electric Power Co., Inc.),

T2-3 Tsunami Coutermeasures at Hamaoka Nuclear Power Station

11:50-12:10 Tetsuya WATANABE (Chubu Electric Power Co., Inc.), Takahisa ISHIDA
(Chubu Electric Power Co., Inc.), Yoshihiro ICHIKAWA (Chubu Electric Power
Co., Inc.)

**T2-4 Lessons and Measures Learned from the Fukushima Daiichi Nuclear Power
Plant Accident**

Tadashi NARABAYASHI (Hokkaido Univ.)

T3: Maintenance Technology (1)

Seihoku Gallery

November 13, 2012

Chair: Masato MOCHIZUKI(Osaka Univ.), Jeremy KNOPP (Air Force Research Lab.)

T3-1 Safety Measures in the Main Control Board Replacement Project at Ikata

11:10-11:30 **Units 1&2**

Nozomu HASHIMOTO (Shikoku Electric Power Co., Inc.),
Kenji TADA (Shikoku Electric Power Co., Inc.)

T3-2 Training for Operation and Maintenance Personnel of Tomari Nuclear Power

11:30-11:50 **Station Unit 3**

Kazuya NUMATA (Hokkaido Electric Power Company), Akiyoshi TSUCHIYA
(Hokkaido Electric Power Company)

T3-3 Lubricating Oil Discharged from Indicator Valve of Emergency Diesel

11:50-12:10 **Generator of Shika-2**

Masaru KURATA (Hokuriku Electric Power Co.), Masaru MIZUKAMI
(Hokuriku Electric Power Co.), Takeshi NISITA(Hokuriku Electric Power Co.),
Keiichiroh TATEKABE(Hokuriku Electric Power Co.), Shogo HATAKENAKA
(Hokuriku Electric Power Co),

T3-4 Maintenance Technology for Low Pressure Turbine Blades by Laser Peening

12:10-12:30

Itaru CHIDA (Toshiba Corporation), Keiichi HIROTA (Toshiba Corporation),
Yuji SANO (Toshiba Corporation), Hidekazu SASAKI (Toshiba Corporation),
Rie SUMIYA (Toshiba Corporation), Takao INUKAI (Toshiba Corporation),
Itaru MURAKAMI (Toshiba Corporation), Hiroshi NOMURA (Toshiba
Corporation)

T4: Severe Accident Management

Ichijo Hall

November 13, 2012

Chair: Koji OKAMOTO (The Univ. of Tokyo), Michel BIETH (European Commission)

T4-1 **Merits of Filtered Containment Venting with High Filtration Efficiency during
14:50-15:10 NPP Severe Accidents**

Salih GUENTAY (Innovative Technology Development GbmH) , Denis GROB
(IMI Nuclear)

T4-2 **Containment Systems Technologies for BWR and PWR to Mitigate Severe
15:10-15:30 Accidents**

Christoph STIEPANI (AREVA NP GmbH) , Znorbert LOSCH (AREVA NP
GmbH), Bernd ECKARDT (AREVA NP GmbH)

T4-3 **Silicon Carbide TRIPLEX Fuel Clad for Accident Resistance and Durability
15:30-15:50 Herbert FEINROTH (Ceramic Tubular Products LLC)**

T4-4 **Improvement of Guideline for Severe Accident Management**

15:50-16:10 Koji OKAMOTO (The University of Tokyo)

T5: Maintenance Technology (2)

Seihoku Gallery

November 13, 2012

Chair: Kazunori MORISHITA (Kyoto Univ.), Jeremy KNOPP (Air Force Research Lab.)

T5-1 **Insight of Maintenance Strategy for Safety System using Functional Group**

14:50-15:10 Jungwun KIM (Korea Hydro & Nuclear Power Co.), Moongoo CHI (Korea Hydro & Nuclear Power Co.), Heeseung CHANG (Korea Hydro & Nuclear Power Co.)

T5-2 **An Approach for Motion Image Prediction and Reconstruction using Principal Component Analysis**

15:10-15:30 Ritu Bhusal CHHATKULI (The University of Tokyo), Kazuyuki DEMACHI (The University of Tokyo), Masaki KAWAI(The University of Tokyo), Hiroshi SAKAKIBARA(The University of Tokyo), Kazuma KAMIKA(The University of Tokyo), Mitsuru UESAKA(The University of Tokyo)

T5-3 **Study of Maintenance Optimization and Maintenance Quantification for Nuclear Power Plants**

15:30-15:50 Takayuki AOKI (Tohoku University), Noriko KODAMA (International Institute of University), Kentaro TAKASE(International Institute of University),Kenzo MIYA(International Institute of University)

T5-4 **Literature Survey on Sudden Fracture of Structural Materials in High Temperature Water**

15:50-16:10 Jiro KUNIYA (Tohoku University), Tetsuo SHOJI (Tohoku University)

T6: Piping Wall Thinning

Ichijo Hall

November 13, 2012

Chair: Fumio KOJIMA (Kobe Univ.), Christoph STIEPANI (AREVA NP GmbH)

- T6-1 **Determination of High-Risk Zones for Local Wall Thinning due to
16:30-16:50 Flow-Accelerated Corrosion**
Shunsuke UCHIDA (Institute of Applied Energy), Masanori NAITOH
(Institute of Applied Energy), Hidetoshi OKADA (Institute of Applied Energy)
Hiroaki SUZUKI (Institute of Applied Energy), Seiichi KOSHIDUKA
(University of Tokyo), Derek H. LISTER (University of New Brunswick)
- T6-2 **Pipe Wall Thinning Management with Prediction Code in Japanese
16:50-17:10 Power Plants**
Kimitoshi YONEDA (Central Research Institute of Electric Power Industry),
Fumio INADA (Central Research Institute of Electric Power Industry), Ryo
MORITA (Central Research Institute of Electric Power Industry), Kazutoshi
FUJIWARA (Central Research Institute of Electric Power Industry)
- T6-3 **Evaluation of Mass Transfer Coefficient under Swirl Flow Generated by the
16:50-17:10 Combination of Pipe Elements**
Shota SUZUKI (Osaka University), Takao NAKAMURA (Osaka University),
Kimitoshi YONEDA (Central Research Institute of Electric Power Industry)
- T6-4 **Experimental Study of Influence of Elbow Curvature on a Swirling Flow
17:30-17:50 Generated in a Three-Dimensionally Connected Dual Elbow**
Tatsuya KUBO (Tohoku University), Shinji EBARA (Tohoku University),
Hidetoshi HASHIZUME (Tohoku University)

T7: Advanced NDT (2)

Seihoku Gallery

November 13, 2012

Chair: Kazuyuki DEMACHI (The Univ. of Tokyo), Sung-Jin, SONG (School of Mechanical Engineering)

T7-1 **Defect Inspection of Power Transmission Line by Novel Dual Transducers
Based on Magnetic Flux Leakage and Eddy Current Method**

16:30-16:50

Jun CHENG (Nanjing University of Aeronautics and Astronautics), Jinhao QIU (Nanjing University of Aeronautics and Astronautics), Manyun CHEN (Nanjing University of Aeronautics and Astronautics), Hongli JI (Nanjing University of Aeronautics and Astronautics), Hongtang CHEN (Shandong Electric Power Research Institute)

T7-2 **A New Method of Eddy Current Testing for Tube Inspection Less Sensitive
against Defect Orientation**

16:50-17:10

Souichi UENO (Toshiba Corporation), Noriyasu KOBAYASHI(Toshiba Corporation), Kota NOMURA(Toshiba Corporation), Makoto OCHIAI(Toshiba Corporation), Yuko KITAJIMA(Toshiba Corporation), Shigeki MARUYAMA (Toshiba Corporation)

T7-3 **Novel Mode Decomposition Algorithms for Lamb Wave Signal Analysis in
Online Monitoring of Structures**

17:10-17:30

A. KARPENKO (Michigan State University), G.DIB(Michigan State University), M.HAQ(Michigan State University), L. UDPA(Michigan State University), S. S. UDPA(Michigan State University)

T7-4 **Investigation of Ultrasonic NDE Techniques for Evaluating Early Degradation
on NPPs.**

17:30-17:50

Sung-Jin SONG (School of Mechanical Engineering), Hak-Joon KIM(School of Mechanical Engineering), Hun-Hee KIM(School of Mechanical Engineering)

W1: ABWR Technology

Ichijo Hall

November 14, 2012

Chair: Kosei TAGUCHI (Toshiba Corporation), Richard REISTER (USDOE)

W1-1 **An Application of Construction Technologies to Advanced Boiled Water
Reactor**

11:10-11:30 Norihiko NAKAMITSU (Hitachi-GE Nuclear Energy, Ltd.), Takashi INOUE
(Hitachi-GE Nuclear Energy, Ltd.)

W1-2 **Characteristics of Main Control Room at Shimane Nuclear Power Plant Unit 3**

11:30-11:50 Yuichi YABUKI (The Chugoku Electric Power Co.Inc.), Akira MIMURA
(The Chugoku Electric Power Co., Inc.)

W1-3 **Radiation Exposure Reduction Technologies for a Japanese Advanced BWR**

11:50-12:10 Takeshi SAITO (Hokuriku Electric Power Co.), Koji ICHIKAWA
(Hokuriku Electric Power Co.), Hiroshi ISHIMARU (Hokuriku Electric Power
Co.), Shinobu KISHIMOTO (Hokuriku Electric Power Co.), Motohiro
AIZAWA (Hitachi-GE Nuclear Energy), Shoichi MORITA (Hitachi-GE Nuclear
Energy), Yoshiteru SATO (Hitachi-GE Nuclear Energy, Ltd.)

W1-4 **Development and Experiences of ABWR**

12:10-12:30 Kosei TAGUCHI (Toshiba Corp.), Mamoru HATAZAWA (Toshiba Corp.), Isao
MATSUMOTO (Toshiba Corp.), Shinichi KAWAMURA (Tokyo Electric Power
Company)

W2: Advanced NDT (3)

Seihoku Gallery

November 14, 2012

Chair: Tetsuya UCHIMOTO (Tohoku Univ.), Lalita UDPA (Michigan State Univ.)

W2-1 **The Cause of an Eddy Current Signal Noise from a Steam Generator Tube and its Effect on the Detectability of a Crack**

11:10-11:30

Deok Hyun LEE (Korea Atomic Energy Research Institute), Myung Sik CHOI (Korea Atomic Energy Research Institute), Do Haeng HUR (Korea Atomic Energy Research Institute), Kyung Mo KIM (Korea Atomic Energy Research Institute), Jung Ho HAN (Korea Atomic Energy Research Institute)

W2-2 **Fabrication of an Artificial Flaw with an Arbitrary Profile and Non-destructive Response for the Development of NDT&E Techniques**

11:30-11:50

Noritaka YUSA(Tohoku University), Kota SASAKI(Tohoku University), Hidetoshi HASHIZUME (Tohoku University)

W2-3 **Partial CT and Structural Analysis with 950 keV/3.95 MeV X-band Linac X-ray Sources**

11:50-12:10

Wenjing WU (The University of Tokyo), Haito ZHU(The University of Tokyo), Ming JIN(The University of Tokyo), Katsuhiko DOBASHI(The University of Tokyo), Takeshi FUJIWARA(The University of Tokyo), Mitsuru UESAKA(The University of Tokyo), Jyuichi KUSANO(Accuthera Co.), Naoki Nakamura (Accenthera Co.),Eiji TANABE(Accuthera Co.), Hideyuki SUNAGA(Riken), Yoshie OHTAKE(Riken)

W2-4 **Nondestructive Detection of Local Material Thinning in Ferromagnetic Material by Magnetic Adaptive Testing**

12:10-12:30

Gábor VÉRTESY (Tohoku University), Tetsuya UCHIMOTO (Tohoku University), Toshiyuki TAKAGI (Tohoku University), Ivan TOMÁŠ (Institute of Physics)

W3: Cable & Concrete

Seihoku Gallery

November 14, 2012

Chair: Masayuki TAKIZAWA (MRI), Dan J. NAUS (ORNL)

W3-1 **Durability Evaluation Method on Rebar Corrosion of Reinforced Concrete**

13:50-14:10 Yoshinori KITSUTAKA (Tokyo Metropolitan University)

W3-2 **Outline of Japanese Project to Develop an Evaluation Method of Irradiated Concrete Soundness**

14:10-14:30 Ippei MARUYAMA (Nagoya University), Osam KONTANI (Kajima Corporation), Shohei SAWADA (Kajima Corporation), Masayuki TAKIZAWA (Mitsubishi Research Institute Inc.), Osam SATO (Mitsubishi Research Institute Inc.)

W3-3 **Concrete Durability Experiment in US**

14:30-14:50 Dan J. Naus (ORNL)

W3-4 **Japanese Research Activities on Assurance of Cable Integrity in Nuclear Power Plants**

14:50-15:10 Yoshimichi OHKI (Waseda University)

Poster Session

Entrance Hall

November 13, 2012

11:10-13:50

Chair: Noritaka YUSA (Tohoku Univ.) , Shigeru TAKAYA (JAEA)

- Poster-1 **Implementation Applicability of Piping Inspection using Electromagnetic Acoustic Resonance**
Ryoichi URAYAMA (Tohoku University), Toshiyuki TAKAGI (Tohoku University), Tetsuya UCHIMOTO (Tohoku University), Shigeru KANEMOTO (The University of AIZU), Taku OHIRA (The Japan Atomic Power Company), Takayoshi KIKUCHI (The Japan Atomic Power Company)
- Poster-2 **Outage Optimization - International Approaches with Robotic Tools**
Christoph STIEPANI (AREVA NP GmbH), Rudolf BAUMGARTL (AREVA NP GmbH), Norbert JAKOBS (AREVA NP GmbH), Markus PUELMANN (AREVA NP GmbH)
- Poster-3 **Revising Scenario Map for Plant Management via Stakeholders Interaction**
Sayuri TAYA (The University of Tokyo), Yukio OHSAWA (The University of Tokyo)
- Poster-4 **Periodic Risk Assessment according to Extending ILRT Interval**
Hojun JEON (Korea Hydro & Nuclear Power Co.)
- Poster-5 **Characteristics of Intergranular Attack in Steam Generator Tubing**
Kyung Soo IM (Korea Atomic Energy Research Institute), Myung Sik CHOI (Korea Atomic Energy Research Institute), Jung Ho HAN (Korea Atomic Energy Research Institute), Deok Hyun LEE (Korea Atomic Energy Research Institute), Do Haeng HUR (Korea Atomic Energy Research Institute)
- Poster-6 **Development of Advanced Laser-EMAT Ultrasonic Techniques for Defect Measurement**
Cuixiang PEI (The University of Tokyo), Tetsuo FUKUCHI (Central Research Institute of Electric Power Industry), Kazuyoshi KOYAMA (The University of Tokyo), Kazuyuki DEMACHI (The University of Tokyo), Mitsuru UESAKA (The University of Tokyo)
- Poster-7 **Evaluation of Irradiation-induced Hardening in Reactor Pressure Vessel Steels using Nano-indentation Technique and Ion Beams**
Kenta MURAKAMI (The University of Tokyo), Takeo IWAI (The University of Tokyo), Hiroaki ABE (Tohoku University), Ryutaro OZEKI (The University of

- Tokyo), Naoto SEKIMURA (The University of Tokyo)
- Poster-8 **Development on Microwave Nondestructive Testing of a Wall Thinning inside a Pipe by Optimizing Microwave Probe and Analyzing Wall Thinning Profile**
Kota SASAKI (Tohoku Univesity), Linsheng LIU (Tohoku Univesity),
Noritaka YUSA (Tohoku Univesity), Takashi WAKAI (Japan Atomic Energy Agency), Hidetoshi HASHIZUME (Tohoku University)
- Poster-9 **Development of a Heat-resistant Magnetic Sensor**
Shigeru TAKAYA (Japan Atomic Energy Agency), Hisashi ARAKAWA (Sumitomo Metal Technology, Inc.), Satoshi KEYAKIDA (Sumitomo Metal Technology, Inc.)
- Poster-10 **Flow Visualization Experiment for Downstream of Orifices with Different Aperture Shapes**
Masako KATO (Tohoku University), Shinji EBARA (Tohoku University),
Hidetoshi HASHIZUME (Tohoku University)
- Poster-11 **Quantitative Evaluation of Residual Strain in Austenitic Stainless Steels using Electromagnetic Nondestructive Evaluation**
Seiya SATO (Tohoku University), Ryoichi URAYAMA (Tohoku University),
Takeshi SATO (Tohoku University), Tetsuya UCHIMOTO (Tohoku University), Toshiyuki TAKAGI (Tohoku University),Zhenmao CHEN (Xi'an Jiaotong University), Yasuhiko YOSHIDA (The Kansai Electric Power Company, Inc.)
- Poster-12 **Movie Prediction Technique based on the PCA and SSA Methods**
Kazuyuki DEMACHI (The University of Tokyo),
Hiroshi SAKAKIBARA (The University of Tokyo), Kazuma KAMIKA (The University of Tokyo), Ritu Bhusal CHHATKULI (The University of Tokyo),
Masaki KAWAI (The University of Tokyo)
- Poster-13 **Tribological Innovative Analysis Method 'SOAP-T'**
Masahiko KAWABATA (TRIBOTEX Co., Ltd.), Toru KAMIYA (TRIBOTEX Co., Ltd.)
- Poster-14 **Development of Anomalous Detection using Movie Prediction**
Hiroshi SAKAKIBARA (The University of Tokyo), Kazuyuki DEMACHI (The University of Tokyo),Masaki KAWAI (The University of Tokyo), Ritu Bhusal CHHATKULI (The University of Tokyo), Kazuma KAMIKA (The University of Tokyo), Naoto KASAHARA(The University of Tokyo)

- Poster-15 **Non Destructive Evaluation of Thermal Sprayed Coating Integrity by the Fusion of Acoustic Microscopy and Swept-frequency Eddy Current Testing**
 Xiaodong DENG (Université de Lyon), Thomas MONNIER (Université de Lyon), Tetsuya UCHIMOTO (Tohoku University), Joel COURBON (Université de Lyon), Toshiyuki TAKAGI (Tohoku University), Yohei TAKAHASHI (Tohoku University)
- Poster-16 **Evaluation of Plastic Deformation of Material in NPP based on ECT and Nonlinear ECT Method**
 Hong En CHEN (Xi'an Jiaotong University), Yunfei LI(Xi'an Jiaotong University), Yong LI (Xi'an Jiaotong University), Zhenmao CHEN (Xi'an Jiaotong University), Tetsuya UCHIMOTO (Tohoku Univerisity), Toshiyuki TAKAGI (Tohoku University), Yasuhiko YOSHIDA (The Kansai Electric Power Co.,)
- Poster-17 **Simplified Electromagnetic Inverse Analysis Technique about the Inclined Defect for Welded Zone of High Chromium Steel**
 Shogo NAKASUMI (Advanced Industrial Science and Technology), Takayuki SUZUKI (Advanced Industrial Science and Technology), Naoyuki TAKASHIMA (University of Tsukuba), Yuji TSUCHIDA (Oita University)
- Poster-18 **On the Efficiency of Direct Sparse Solver for FEM-ECT Analysis**
 Shigeru HEMMI (Itochu Techno-Solutions Corporation), Masayuki SARUHASHI (Itochu Techno-Solutions Corporation), Yasushi IKEGAMI (Itochu Techno-Solutions Corporation)
- Poster-19 **Fast Forward and Inverse Models for Evaluation of Hidden Corrosion via PECT**
 Yong Li (*Xi'an Jiaotong University*), Zhenmao CHEN (*Xi'an Jiaotong University*), Yong QI (*Xi'an Jiaotong University*), Meihua XIAO (*Xi'an Jiaotong University*), Hongda ZHAO (*Xi'an Jiaotong University*)