**The Fifth US/Japan NDT Symposium ASNT/JSNDI**
**Makena Beach and Golf Resort Maui, HI**

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| | **Tuesday June 17, 2014** | |
| | **Keynote Address 8:00-8:45 am**<br>***Ultrasonic Evaluation of the Core Shells in a Reactor Pressure Vessel Successful Assessment and Restart***<br>**Pierre Doumont, GDF Suez** | |
| | **Composites I**<br>Chair: D. Moore, Sandia National Labs; M. Hirao, Osaka University | **Radiography**<br>Chairs: V. Marconcini, Aerojet; K. Fujioka, Electron Science Institute |
| 9:00 am | **Material Bond Testing and NDTE Technology**<br>W. Weisner, B. Lapage, Olympus NDT; D. Moore, Sandia National Labs | **Aging Aircraft Portable 3D Radiography**<br>B. Dryden, Digitome Corporation |
| 9:30 am | **Composite Inspection Using Pulsed Thermal Infrared Techniques**<br>S. Shepard, Thermal Wave Imaging Inc. | **Development of Radiation Tolerant Camera**<br>K. Mochiki, M. Kashibe, H. Yoshida, Tokyo City University; A. Watanabe, Pioneer Corporation; K. Yoshizawa, Pioneer Micro Technology Corporation |
| 10:00 am | **Friction Coefficient of Al/WS2 Composite Material Formed by Compression Shearing Method at Room Temperature**<br>S. Sakagami, N. Nakayama, Shinshu University; H. Miki, Tohoku University; A. Takahashi, K. Hashimoto, Teikyo University; H. Takeishi, Chiba Institute of Technology | **In-Situ Radiographic Detection of Improperly Seated Thruster Valve Springs**<br>E. Johnson, S. Kenderian, R. Pan The Aerospace Corporation; A. Hoffman, Lockheed Martin Space System Company |
| 10:30 am | **Advancements in Automatic Scanning Platforms to Support Ultrasonic Inspections**<br>D. Moore, C. Nelson, Sandia National Labs | **Neutron Radiography using Environmental Neutrons**<br>R. Taniguchi, N. Ito, Osaka Prefecture University |
| **11:00 am-12:30 pm Lunch** | | |

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| | **Infrastructure NDT**<br>Chair: S. Hirose, Tokyo Institute of Technology | **Materials Characterization I**<br>Chairs: R. Gessel, Wiss Janney Elstner Associates Inc.; I. Ihara, Nagaoka University of Technology |
| 12:30 pm | **Frequency Analysis Methods for Concrete Thickness Estimation by Impact-Echo Method**<br>S. Uchida, Y. Kawasaki, K. Tateyama, T. Okamoto, Ritsumeikan University;<br>T. Kamada, Osaka University; S. Iwano, Rik Co., Ltd.; H. Lee, Korea Infrastructure Safety Corporation | **Crack Tip Estimation Combining SPACE with High Amplitude Ultrasonic Transmission Technique**<br>T. Mihara, G. Konishi, H. Tashiro, University of Toyama; Y. Udagawa, ISL Co. Ltd. |
| 1:00 pm | **Evaluation of Self-Healing Effect in Fly Ash Concrete by Elastic Wave Methods**<br>T. Watanabe, R. Hosogi, C. Hashimoto, K. Ishimaru, The University of Tokushima; Y. Fujiwara, Okayama Gas Co., Ltd. | **Method for Verifying Preloads in Deployment Mechanism Bolts**<br>E. Johnson, Y. Kim, R. Pan, The Aerospace Corporation |
| 1:30 pm | **Prediction Method for Degree of Rebar Corrosion Degree in Reinforced Concrete by Thermography**<br>T. Imai, H. Oshita, Chuo University | **Comparison of Rapid Air-Permeability Testing Methods for Structural Concrete**<br>A. Nonaka, N. Yuasa, Nihon University |
| 2:00 pm | **Fatigue and Corrosion Monitoring by Wireless and Internet Communications**<br>T. Shiraiwa, M. Enoki, The University of Tokyo | **A Nondestructive Evaluation Method for the Mechanical and Electrical Properties of Materials at Different Temperatures**<br>I. Shkolnik, H. Hiziroglu, Kettering University |
| **2:30-3:00 pm Refreshment Break** | | |

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| | **NDT Management**<br>Chairs: B. Boro Djordjevic, Materials and Sensors Technologies, Inc.;<br>Y. Yokono, Pony Industry Co., Ltd. | **Pipeline NDT**<br>Chairs: D. Culbertson, NDT Technical Services; K. Nakahata, Ehime University |
| 3:00 pm | **Certification for the New Ages - A Comprehensive Approach to NDT Certification for Users of Digital Technology**<br>V. Marconcini, M. Rockenbach, AerojetRocketdyne; J. Prindiville, Prindiville Consulting | **Inspection of Pipe Wall Thinning by Torsional EMAT**<br>N. Hardad, N. Nakamura, H. Ogi, M. Hirao, Osaka University |
| 3:30 pm | **Qualification and Certification of Personnel for NDT in Japan - From the Viewpoint of Level-3 Examiner**<br>N. Yagi, Mitsubishi Hitachi Power Systems Inspection Technologies, Ltd. | **Nondestructive Evaluation and Monitoring of Cracks in Sheave Trunnions for the Snohomish River Bridge**<br>R. Gessel, Wiss Janney Elstner Associates Inc. |
| 4:00 pm | **Effective Data Management for Today's NDE Industry**<br>R. Ginzel, J. Buchholz, M. Matheson, Eclipse Scientific | **Nondestructive and Noncontact Measurement of Wall Thinning Location in Metal Pipeline by Microwaves**<br>F. Inukai, A. Hosoi, Y. Ju, Nagoya University; T. Hitotsuya, Chubu Electric Power Co., Inc. |
| 4:30 pm | | **Design and Construction of Simple Tool for Leak Test of Tapping Saddle in Polyethylene Gas Pipes**<br>E. Mohseni Homagerani, M. Rasooly, A. Saliminia, NIGC |
| **Welcome Reception: 5:30 pm** | | |

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| | **Wednesday June 18, 2014** | |
| | **Plenary Address 8:00-8:45 am**<br>***Practical Industrial Applications of Laser-Ultrasonic Testing for Power Plant Components in Japan***<br>**Makoto Ochiai, Toshiba** | |
| | **Composites II**<br>Chairs: S. Shepard, Thermal Wave Imaging Inc.; T. Mihara, University of Toyama | **Phased Array**<br>Chairs: T. Elbert, Herzog Services Inc.; N. Yagi, MHI Power Systems Inspection Technologies, Ltd. |
| 9:00 am | **Detection of Impact Damage in Carbon Fiber-Reinforced Plastic (CFRP) by Eddy Current Non-Destructive Testing**<br>K. Koyama, H. Hoshikawa, T. Hongu, Nihon University | **GPU Accelerated Ultrasonic Simulation and Implementation of SAFT Reconstruction Tool**<br>K. Nakahata, Ehime University; S. Hirose, Tokyo Institute of Technology |
| 9:30 am | **Assessment of Composite Materials Using Computed Tomography Techniques**<br>D. Moore, B. Kernen, Sandia National Laboratories | **PAUT based Techniques Developed for Power Industries and Refinery in Taiwan**<br>Y. Wu, C. Hsiao, Industrial Technology Research Institute |
| 10:00 am | **Detection and Localization of Subsurface Defects in CFRP plate by Dynamic Shear Strain Analysis Over the A0-Mode Lamb Wave Field**<br>K. Teramoto, H. Ishibashi, Saga University | **Integration of an Advanced and Compact Phased Array Module with Robot Automation**<br>G. Dao, Advanced OEM Solutions |
| 10:30 am | **Composite to Metal Bondline Interface Evaluation Using Conventional and Advanced Ultrasonic Techniques**<br>D. Moore, Sandia National Laboratories | **A New Approach for Developing Applications with Phased Array Technologies**<br>D. Braconnier, DiiBii |
| **11:00 am-12:30 pm Lunch** | | |

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| | **Magnetic Methods**<br>Chair: Y. Yokono, Pony Industry Co., Ltd. | **Laser Ultrasound**<br>Chair: M. Ochiai, Toshiba |
| 12:30 pm | **Analytical Study of a Standard Test Shim for Yoke Method of Magnetic Particle Testing**<br>N. Kasai, A. Takada, Yokohama National University; K. Fukuoka, University of Shiga | **Progress in Development of Laser Ultrasonic Visualization Technology**<br>X. Wang, J. Takatsubo, B. Wang, X. Liu Tsukuba Technology Co., Ltd. |
| 1:00 pm | **Changes of Magnetic Flux Density Distribution around Fatigue Crack with Crack Propagation**<br>H. Tanabe, Y. Izumi, T. Takamatsu, T. Hibino, The University of Shiga Prefecture | **Actual Laser Based Methods for Remote Inspection of Shinkansen Tunnels and Highway Bridges**<br>Y. Shimada, O. Kotyaev, Institute for Laser Technology; S.Hirose, Tokyo Institute of Technology; H. Tachibana, K. Nakamoto, Komaihaltec Inc.; N. Misaki, H. Takinami, West Japan Railway Company |
| 1:30 pm | **Performance Evaluation of a Probe Climber for Maintaining Wire Rope**<br>J. Yasutomi, Y. Kanto, S. Nagoshi, Y. Aoki, A. Tabata, Nihon University | **Laser Ultrasonic Technique for Inspection of Highway Bridges Strengthened with Steel Plates -Comparison between Laser Ultrasonic Method and Hammering Test -**<br>S. Hirose, Y. Yamaguchi, Tokyo Institute of Technology; H. Tachibana, K. Nakamoto, Komaihaltec Inc.; Y. Shimada, O. Kotyaev, Institute for Laser Technology; |
| 2:00 pm | **Superimposed Magnetic Field Rotation Technique for Multidirectional Crack Detection**<br>T. Suzuma, M. Sakamoto, Y. Oota, Nippon Steel & Sumitomo Metal Corporation; K. Tsukada, Kyoto University | **Real-Time Ultrasonic Thermometry for Internal Temperature Profiling and Its Application to Heated Material Monitoring**<br>I. Ihara, Nagaoka University of Technology |
| **2:30-3:00 pm Refreshment Break** | | |

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| | **Reliability**<br>Chairs: D. Culbertson, NDT Technical Services; Y. Murata, Wakayama University | **Railroad NDT**<br>Chair: G. Garcia, Evraz North America |
| 3:00 pm | **A Magnetically Pulsed Remote Field Evaluation of Corrosion Under Insulation**<br>M. Kasuga, G. Hashimoto, K. Sakai, T. Kiwa, K. Tsukada, Okayama University; R. Fujita, T. Kawabe, CXR Co. | **Commissioning an Automated NDT Line for Rail Inspection**<br>G. Garcia, B. Lindeman, J. Roth, Evraz North America |
| 3:30 pm | **Eddy Current Array & Increased POD**<br>W. Weisner, Olympus NDT | **History of In-service Rail NDT**<br>T. Elbert, Herzog Services Inc. |
| 4:00 pm | **Calibration-free Real-time Deformation Distribution Measurement with Improved Version of Sampling Moire Camera**<br>M. Fujigaki, D. Tomita, Y. Murata, Wakayama University; D. Asai, HIKARI Co., Ltd.; N. Ikoma, JR WEST JAPAN Consultants Company | **In Service Rail Inspection Approaches and Challenges**<br>S. Staples, BNSF Railway; T. Hance, Sperry Rail Service; T. Elbert, Herzog Services Inc. |
| 4:30 pm | | |
| **Sunset Luau – 6:00 pm** | | |

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| | **NDE Advancements**<br>Chairs: S. Staples, BNSF Railway;<br>O. Kobori, Electron Science Institute | **Fatigue & Fracture**<br>Chair: H. Tanabe, The University of Shiga Prefecture |
| 9:00 am | **Use of Ultrasonic Phased Array and Synthetic Aperture Focusing Technology in Boeing Commercial Airplane Applications**<br>J. Kollgaard, J. Linn, D. Messner, The Boeing Company | **Metal Fatigue Mapping System using Low Frequency Magnetic Field**<br>T. Akiyama, M. Tanabe, K. Sakai,<br>T. Kiwa, K. Tsukada. Okayama University;<br>K. Inoue, Mes Testing & Research Center Co., Ltd. |
| 9:30 am | **Research of System of Making to Visible of Internal Defect by Wave Motion Inversion Analysis**<br>Y. Nishimura, T. Suzuki, National Institute of Advanced Industrial Science and Technology; K. Fukuda, M. Fukuta, Tokyo National College of Technology | **Evaluation of the Depth Distribution of Thermal Fatigue Cracks on the Metal Surface using Microwaves**<br>K. Nohara, A. Hosoi, J. Yang, Nagoya University |
| 10:00 am | **Laser Ultrasonic Guided Waves NDE, What can we do?**<br>B. Boro Djordjevic, Materials and Sensors Technologies, Inc. | **Remote Nondestructive Evaluation of Fatigue Crack in Steel Bridges by Infrared Thermography**<br>T. Sakagam, Kobe University; Y. Izumi, University of Shiga Prefecture |
| 10:30 am | **Study on Proper Range of Developer Coating Thickness for Liquid Penetrant Testing**<br>K. Fujioka, Electron Science Institute | **Applicability Evaluation of Sonic-IR Technique for Fatigue Crack Detection**<br>Y. Izumi, T. Hirotaka, T.Takamatsu, University of Shiga Prefecture;<br>T. Sakagami, Kobe University |
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| | **Ultrasound**<br>Chair: D. Braconnier, DiiBii | **Materials Characterization II**<br>Chairs: E. Johnson, The Aerospace Corporation; T. Sakagami, Kobe University |
| 12:30 pm | **Wave Generation and Propagation -Measurement of Emitted Sound Pressure Waveform on Receiving Transducer Affected by Excitation Potential to Transmit Transducer, Existence of Buckling and Protection Layer, and Thickness of Piezoelectric Vibrator-**<br>O. Kobori, Electron Science Institute;<br>Y. Udagawa, ISL Co. Ltd. | **Electromagnetic Acoustic Resonance for Polycrystalline FePt Alloy**<br>N. Nakamura, N. Yoshimura, H. Ogi,<br>M. Hirao, Osaka University |
| 1:00 pm | **3-D simulation of Non-linear Ultrasonic Waves using New Time-domain Boundary Element Method**<br>T. Saitoh, S. Kanai, Gunma University; T. Maruyama, S. Hirose, Tokyo Institute of Technology; K. Nakahata, Ehime University | **Disbond Detection of Spacecraft Thermal Protection Systems**<br>B. Bartha, J. Elston, P. Vona, PAR Systems |
| 1:30 pm | **Development of M-sequence Pulse Compression Ultrasonic Transducer Using Piezoelectric Polymer Films**<br>Y. Murata, H. Yonenaka, M. Fujigaki, Wakayama University | **Development of Flexible Contact Sensor for Moment Measurement**<br>S. Kasuga, N. Nakayama, Shinshu University; H. Takeishi, Chiba Institute of Technology |
| 2:00 pm | **Fundamental Study on Ultrasonic Evaluation of Back Surface Roughness**<br>Y. Kurokawa, H. Inoue, M. Sugino, Tokyo Institute of Technology | **Validation & Adoption of Digital Radiographic Depth & Thickness Estimation Tools, by API Standard 1104**<br>D. Culbertson, NDT Technical Services;<br>L. Schaefer, PG&E |
| **2:30-3:00 pm Refreshment Break** | | |

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| | **Future Direction & Possibilities in NDE**<br>Chairs: B. Boro Djordjevic, Materials and Sensors Technologies, Inc.;<br>K. Inoue, Mes Testing & Research Center Co., Ltd. | **Materials Characterization III**<br>Chairs: S. Kenderian, The Aerospace Corporation; R. Taniguchi, Osaka Prefecture University |
| 3:00 pm | **Quantitative Comparison of Experimental and Simulated Cone Beam Computed Tomography Data**<br>K. Thompson, E. Jimenez, L. Orr,<br>I. Perez, Sandia National Labs | **Real-time Inspection Using Matrix Phased Array Ultrasonic Technology**<br>R. Spencer, E. Todorov, EWI; G. Dao, AOS |
| 3:30 pm | **Novel Solutions for Non-Destructive Testing of Composites and Coatings**<br>M. Nikow, Agilent Technologies | **Summary of Complex Design for Matrix Phased Array and Deformed-Ellipse Annular Array to Detect Micro Cracks and Porosity in Thick-Part Inspection**<br>D. Braconnier, M. Gruber, The Phased Array Company LLC. |
| **Closing Ceremony** | | |