# ISEM’15-Matsue, Technical Program

**November 1st, 2015**

## 17:00-18:30

**Reception (Restaurant)**

**November 2nd, 2015**

## 9:30-9:40

**Opening Ceremony (International Conference Hall)**

Shinichi SUZUKI (President of the Japanese Society for Experimental Mechanics, Toyohashi University of Technology, Japan)

Satoru OKAMOTO (Chairperson of Organizing Committee of 10h ISEM, Shimane University, Japan)

## 9:40-10:40

**Keynote Lecture 1 (International Conference Hall)**

Chair: Hiroshi TAKAHASHI (Tohoku University, Japan)

01 Study on Using Laboratory Model to Research for Bearing Capacity of Soft Ground Improved by Deep Cement Mixing Columns Due to Embankment Load with Different Montmorillonite Contents (Prof. Nguyen Minh TAM / Ho Chi Minh City University of Technology, Ho Chi Minh, Vietnam)

**10:50-11:50**

**Keynote Lecture 2 (International Conference Hall)**

Chair: Shuting LI (Shimane University, Japan)

02 Study on the Planetary Roller Screw Mechanism Based Electro-Mechanical Actuator (Prof. Geng LIU / Northwestern Polytechnical University, Xi’an, China)

**11:50-12:50**

**Lunch**

**12:50-14:30**

**Fluid Dynamics 1 (Room A)**

Chair: Tadateru ISHIDE (National Institute of Technology, Kisarazu College, Japan)

023 Preconcentration and Separation of Mixed-Species Sample in Single Convergent Microchannel (Ping-Hsien CHIU, Chen-Hsun WENG and Ruey-Jen YANG)

028 A Micromixer Using the Taylor-Dean Flow: Rotation Effect of Channel on the Mixing (Toshihiko KAWABE, Yasutaka HAYAMIZU, Shinichiro YANASE, Takeshi GONDA, Shinichi MORITA, Shigeru OHTSUKA and Kyoji YAMAMOTO)

100 Development of New Flow Diagnostic Method by Vibration Measurement (Yuho ONISHI, Koji MORI, Shinya KATAOKA and Kiyoshi DEMOTO)

085 Surface Disintegration and Atomization of Micro Water Droplet Subjected to Surface Acoustic Wave (Seiichi SUDO, Ryohei SATO and Hiroki KUWANO)

104 Light Field Imaging Technique Applied to Particle Image Depth Measurement (Kazuo OHMI, Sudat TULADHAR, Sultan ALJABRI and Junda HAO)

**12:50-14:10**

**Solid Mechanics 1 (Room B)**

Chair: Ichiro SHIMIZU (Okayama University of Science, Japan)

031 Effective Stress Intensity Factor Range of Surface Crack Measured by Digital Image Correlation Method (Yuichi ONO and Masaki TOGASHI)

035 Mechanics of Soft Actuator Having a Bellows Structure Operated by Inner Pressure (Toshiro KOBAYASHI, Yuichi UTSUMI, Hideyuki KANEMATSU and Motomichi YAMAMOTO)

106 Measurement of Stress Distribution in Tensile Test of Metals and Consideration of Stress-Strain Relation (Akira KATO)

103 Reducing Noise of Shape Measurement with Fringe Projection Method Using Vibrated Reference Plate (Motoharu FUJIGAKI, Takumi HAYASHI and Yorinobu MURATA)

**12:50-13:50**

**Sound and Vibration 1 (Room C)**

Chair: Yohsuke TANAKA (Kyoto Institute of Technology, Japan)

051 Research on Vibration Characteristics of Dual Path-combine Herringbone Gear System (Wang SANMIN, Guo WEICAN and Wang FEIMING)

065 Modeling Method and Analysis of Resonance Characteristics of the Coupled Multi-rotor Systems of the Aeroengine (Yuan RU, Ma CONG and Wang SANMIN)

021 Effect of Machining Errors on Vibration Level of Spur Gears (Shuting LI and Ryuichi SONEZAKI)

**12:50-14:30**

**Materials Science and Engineering 1 (International Conference Hall)**

Chair: Hideki ONO (Osaka University, Japan)

013 Effect of Plasma Discharging Condition on Growth Behavior of Nano-wire Formed on Tool Steel Substrate (Masahiko KATO, Hiromichi SYUTO, Hiroyuki AKEBONO and Atsushi SUGETA)

014 Evaluation of the Strength of CFRP Adhesive Joints Manufactured Using VARTM (M R ABUSREA and Kazuo ARAKAWA)

016 Finite Element Analysis of Creep Deformation Behavior under the Multiaxial Cyclic Stresses (Yu MUKAI, Yudai TANDA, Kenichi OSHITA and Shigeru NAGAKI)

020 Effects of Torsion on Mechanical Properties of Polymeric Fiber Ropes (Hiroki ENDO, Sang-Jae YOON, Kazuo ARAKAWA)

052 Mechanical Characteristics of C/C Composites Modified with Micro-sized Glass Fibers (Yasuhiro UTSUNOMIYA, Kiyotaka OBUNAI, Tadao FUKUTA and Koichi OZAKI)

**14:45-16:25**

**Fluid Dynamics 2 (Room A)**

Chair: Ruey-Jen YANG (National Cheng Kung University, Taiwan)

036 The Aerodynamic Behavioral Study on Wake Flow Interaction in Tandem Arrangement of Low-Aspect Ratio Wings at Critical Reynolds Number (Yi-Chung LIU, Hung-Yen CHOU and Fei-Bin HSIAO)

029 The Aerodynamic Improvement of a Flexible Flapping Wing (Tadateru ISHIDE, Kazuya NAGANUMA, Ryo FUJII and Kazuo MAENO)

060 Observation of Two-dimensional Vorticity Field of Airfoil Surface in a Periodic Flow under Low Reynolds Number (Hirohisa YAMANISHI, Yohsuke TANAKA and Shigeru MURATA)

071 Inflexion-point Instability in Pulsating Pipe Flows (J. J. MIAU, R. H. WANG and T. W. JIAN)

087 Wind Tunnel Study of Wind Force Coefficients for Open-type Framed Membrane Structures (Yuki TAKADATE, Yasushi UEMATSU and Eri GAVANSKI)

**14:45-16:25**

**Medical and Welfare Engineering (Room B)**

Chair: Tetsuya HIROTOMI (Shimane University, Japan)

050 Effect of Taper Angle on Measurement for Three-axis Load Sensor (Shohei KOBAYASHI and Noboru NAKAYAMA)

094 Loading Deflection Optimization of Delta Robot (Zhen-Jia HUANG, Ming Ti-CHOU and Eileen Chih-Ying YANG)

098 Force Guiding via Compliance Force Control (Hung-Min CHO, Heng-Yu BAI and Eileen Chih-Ying YANG)

102 Medical Assistant Robot Combined with Image Navigation for Tissue Sampling (Heng-Yu BAI, Chi-Hung WU and Eileen Chih-Ying YANG)

105 Performance Measures of Touch Panel Operations for Positioning Assessment Support System (Yu IWASAKI, Tetsuya HIROTOMI and Shiori NOTSU)

**14:45-15:45**

**Civil Engineering 1 (Room C)**

Chair: Hiroshi TAKAHASHI (Tohoku University, Japan)

005 Study on Influence of Alkaline Liquid and Fly Ash on Shrinkage and High Strength of Geopolymer Concrete (Anh-Tuan LE, Duc-Hung PHAN and Hiroshi TAKAHASHI)

008Calibration of Numerical Model for the Simulation of Bed Load Transport Using Telemac 2D (Ho Tuan DUC, Nguyen THONG, Luu Xuan LOC and Hiroshi TAKAHASHI)

011Study on Improvement of Sludge in Mekong Delta Area, Vietnam by Using Rice Husk (Phan Thanh CHIEN, Tomoaki SATOMI and Hiroshi TAKAHASHI)

**16:00-17:20**

**Civil Engineering 2 (Room C)**

Chair: Luu Xuan LOC (Ho Chi Minh City University of Technology, Vietnam)

012 Study on Automatic Ground Strength Measurement from the Sky at Landslide Area (Takaya KANDA and Tomoaki SATOMI and Hiroshi TAKAHASHI)

061 Study on Application of Neural Network on Estimation of Soil Strength Parameters from Bucket Digging Force (Tomoaki SATOMI and Hiroshi TAKAHASHI)

006 Study on Dredging of Tsunami Sludge in the River and Recycling of Tsunami Sludge as Banking Materials (Masanori SATO, Tomoaki SATOMI and Hiroshi TAKAHASHI)

007 Study on Production of Spherical Aggregates using Waste Gypsum and Dehydrated Cake from Crushed Stone Quarry (Tomoaki SATOMI, Yuji ICHINOSE and Hiroshi TAKAHASHI)

**14:45-15:25**

**Materials Science and Engineering 2 (International Conference Hall)**

Chair: Kiyotaka OBUNAI (Okayama Prefectural University, Japan)

114Copper Transfer from Molten Iron to Na2S Flux via Silver (Hideki ONO, Katsuhiro YAMAGUCHI and Eiichi TAKEUCHI)

115Reduction Behavior of Iron Ore Agglomerates of FeO-CaO-SiO2-Al2O3 and Influence of Al2O3 (Hirokazu KONISHI, Hirotoshi KAWABATA, Hideki ONO and Eiichi TAKEUCHI)

**16:00-17:20**

**Materials Science and Engineering 3 (International Conference Hall)**

Chair: Motoharu FUJIGAKI (University of Fukui, Japan)

073 An Algorithm to Estimate the Hydrogen Induced Cracking Growth Rate (Walter F. GONZALEZ, Jorge L. GONZALEZ, Diego I. RIVAS and H.DORANTES R)

075 Modeling of Crack Area Growth Rate of Hydrogen Induced Cracking in Pipeline Steels (Emmanuel MORLET, Jorge Luis GONZÁLEZ, Diego RIVAS, Héctor DORANTES, Perla VÁZQUEZ, Walter GONZÁLEZ)

076 Fractography of Initiation Sites of Hydrogen Induced Cracking (Perla VÁZQUEZ, Jorge Luis GONZÁLEZ, Diego RIVAS, Héctor DORANTES and Walter GONZÁLEZ)

077 Obtaining of S-N Diagram for Epoxy-carbon Specimens with Manufacturing Defects (Sugey GARCÍA, Jorge L. GONZÁLEZ, Mauricio TORRES and Diego I. RIVAS)

**November 3rd, 2015**

**9:30-11:50**

**Poster Session　(Small Hall)**

Chair: Yuichi ONO (Tottori University, Japan), Takeshi GONDA (National Institute of Technology, Yonago College, Japan)

1.General Presentation　21

2.Special Presentation by Students of College of Technology　27

Awarding Ceremony

**11:50-12:50**

**Lunch**

**13:00-21:00**

**Excursion and Banquet**

Excursion : Matsue Castle, Izumo Grand Shrine and Shimane Museum of Ancient Izumo

Banquet : Matsue Vogel Park (Traditional Japanese performance art: Iwami Kagura)

**November 4th, 2015**

**9:30-10:30**

**Keynote Lecture 3 (International Conference Hall)**

Chair: Takuya OHBA (Shimane University, Japan)

03 Application of shape memory alloys for secondary battery (Prof. Tae-hyun NAM / Gyeongsang National University, Jinju, Republic of Korea)

**10:40-11:40**

**Keynote Lecture 4 (International Conference Hall)**

Chair: Toshihiro KITAMURA (Shimane University, Japan)

04 Traditional Steel Making, Tatara and its Application to Japanese Swords (Prof. Takuya OHBA / Department of Materials Science, Shimane University, Matsue, Japan)

**11:40-12:40**

**Lunch**

**12:40-14:00**

**Fluid Dynamics 3 (Room A)**

Chair: Hideaki MONJI (University of Tsukuba, Japan)

047 Flow Mapping in Two-phase Swirling Flow using Ultrasonic Array Sensors (Ari HAMDANI, Tomonori IHARA and Hiroshige KIKURA)

064 Effect of Wetting Phenomenon on Oscillation of Liquid Column in a U-shaped Tube (Tomonori SUWA, Tatsuro WAKIMOTO, Yoshiaki UEDA, Kenji KATOH and Manabu IGUCHI)

112 Fundamental Study on the Temporal Variation of CTA Calibration Curves (Hiroki SUZUKI, Shinsuke MOCHIZUKI and Yutaka HASEGAWA)

056 Effect of Expansion Wave Generated by Train Tail Entering into Tunnel on Lateral Vibration (Hiroaki AKAI, Shun TAKAHASHI, Masanori OTA and Kazuo MAENO)

**12:40-14:20**

**Solid Mechanics 2 (Room B)**

Chair: Yuichi ONO (Tottori University, Japan)

082 Three-dimensional Yield Surfaces Described by Cubic Polynomials (Li-Wei LIU and Hong-Ki HONG)

074 Experimental and Finite Element Study on Dynamic Bending Behavior of Rectangular Aluminum Tube for Modeling of Pole Side Impact of Vehicle (Tadanori ONO, Ichiro SHIMIZU, Kousuke HARA, Naoya TADA and Nobuaki TAKUBO)

089 Compressive Behavior and Constitutive Modeling of Semi-crystalline Polymers over a Wide Range of Strain Rates and Temperatures (Kenji NAKAI and Takashi YOKOYAMA)

034 Investigation of Bending Flexibility and Longitudinal Integrity of Balloon Expandable Stents by Comparative Testing (Ichiro SHIMIZU, Tatsuya SUZUKI, Daiki IWATA and Naoya TADA)

041 Effect of Tensile Stress on Transformation Plastic Deflection under Combined Bending-Tensile Loading System (M. Arif HAMDAM, Shigeru NAGAKI and Kenichi OSHITA)

**12:40-14:20**

**Sound and Vibration 2 (Room C)**

Chair: Wang SANMIN (Northwestern Polytechnical University, Xi’an, China)

026 Detection of Cavitation in Stem of Miniature Tomato using Acceleration Sensor (Kensuke KAGEYAMA, Iman B.A. HALIM, Kouya KIMURA and Tatemasa SAKAI)

032 Effect of Air Damping on Tire Cavity Resonance (Shogo HORIKAWA, Yohsuke TANAKA, Masaki NAKAMURA and Shigeru MURATA)

072 Basic Damping Property of a Double-Rod Type Damper Utilizing an Elastomer Particle Assemblage (Yusuke MORISHITA, Yasushi IDO, Kouta MAEKAWA and Atsushi TOYOUCHI)

096 Effects of Stroke and Frequency on Damping Properties of a Damper Using a Steel Particle Assemblage (Yasushi IDO, Makoto HANAI, Takuma KAWAI, Koichi HAYASHI, and Atsushi TOYOUCHI)

069 Damping Properties of a Damper Using an Elastomer Particle Assemblage Mixing Fine Particles (Ryusuke KAWAMOTO, Yasushi IDO and Atsushi TOYOUCHI)

**12:40-14:00**

**Materials Science and Engineering 4 (International Conference Hall)**

Chair: Takashi YOKOYAMA (Okayama University of Science, Japan)

039 Fatigue Life of Notched Aluminum-alloy Subjected to Thermal History (Misao ITOH and Naoto MARUKADO)

022 Charge Retention of Silica-agglomerate Electret Using Electrostatic Spraying at Elevated Temperature (Chenye WU, Kensuke KAGEYAMA and Tatenobu SAKAI)

**14:35-16:15**

**Fluid Dynamics 4 (Room A)**

Chair: Toru SAWAI (Kinki University, Japan)

086 Thickness Measurement of Liquid Sheet Spay before Breakup (Nurrina ROSLI and Kenji AMAGAI)

054 Drag Force Acting on a Sphere in Oblique Arrangement of Spheres (Ryosuke TAKAGI, Kensuke OKUBO and Hideaki MONJI)

059 Micro-Bubble Flow in Converging-Diverging Nozzle Using Pressurized Dissolution Method - Effect of Amount of Dissolved Gas – (Rei MIKOSHIBA, Khine Tun NAUNG and Hideaki MONJI)

083 Effect of Orifice Accelerating Bubble Generation on Two-Phase Nozzle Flow Using Pressurized Dissolution Method (Khine Tun NAUNG, Junhyuk LEE, Rei MIKOSHIBA and Hideaki MONJI)

084 Experimental Study of Heat Transfer by Free Convection for Horizontal Cylinder of Composite Material under the Effect of Vibrations (Muna S. KASSIM, Fahim ALHIMDANI and Ihab Adel RAHEEM)

**14:35-15:35**

**Instrumentation and Testing (Room B)**

Chair: Kensuke KAGEYAMA (Saitama University, Japan)

055 Development of a Vibration Probe Foot Using an EPM for Aerial Inspection Robots (Shunsuke AKAHORI, Yoshiyuki HIGASHI, Arata MASUDA and Kazuya TAKEUCHI)

058 Reduction of Ghost Particles on Tomographic Digital Holography by Using Iterative Volumetric Filtering (Shunsuke TANI, Yohsuke TANAKA and Shigeru MURATA)

**14:35-15:55**

**Bio Engineering (Room C)**

Chair: Koichi KOBAYASHI (Niigata University, Japan)

033 Finite Element Analysis of Trimmed Plastic Ankle-foot Orthoses (Kosuke NAKANO, Ichiro KITAYAMA, Masato KITANO, Takashi YAMANAKA, Yosuke IKEHARA, Hideo KOYAMA, Takashi MORIMOTO and Hideki SONOBE)

038 The Effect of Vibrational Strain on Osteoblasts Cultured on A Type I Collagen-coated Silicone Membrane (Takeru OTA, Mirei CHIBA and Haruhide HAYASHI)

070 The Effects of Cyclic Stretch on Mouse iPS Cells (Mayumi YASUDA, Mirei CHIBA, Takeru OTA, Aiko TAKIZAWA and Kaoru IGARASHI)

113 Analysis of Fixation Degree on External Fixation Device in Unstable Pelvic Ring Fracture (Kouki NAGAMUNE, Shogo KAWAGUCHI and Keisuke OE)

**14:35-15:35**

**Materials Science and Engineering 5 (International Conference Hall)**

Chair: Kenji NAKAI (Okayama University of Science, Japan)

040 Stress and Strength Analysis of Bamboo and Hinoki Wood Adhesively Bonded Single-strapped Joint under Tensile Loads (Yoshihiro TSUCHIYA, Noboru NAKAYAMA and Izumi HIGUCHI)

044 Effect of Particle Size of Pure Aluminum Powder on Construction of Porous Aluminum Formed by Chemical Reaction (Keita ENDO, Masaomi HORITA and Noboru NAKAYAMA)

017 Effect of Temperature on Buckling of Composite Material Column (Noor k. FAHEED, Kadhim k. RESAN and Mohammed H. ALI)

**16:30-16:40**

**Closing Address (International Conference Hall)**

Hideaki MONJI (Chairperson of Scientific Committee of 10h ISEM, University of Tsukuba, Japan)

**November 3rd, 2015**

**9:30-11:50**

**Poster Presentation**

**General Presentation**

010 Development of a Formula for Estimating Properties of Upgraded Wood Pellets by Pyrolysis Treatment

Using Colorimetric Values (Toru SAWAI, Ichiro KATAYAMA, Tamio IDA, Takeshi KAJIMOTO and Hiroki IMAMURA)

015 Ultrasonic Echo Height Change in Hub Bearing under Braking (Yoshihiro NISHIHAMA and Akitoshi TAKEUCHI)

024 Development of Spatter Adhesion Preventive Agent with Volcanic Ash in Stainless Steel Welding (Akihiro TAKAHASHI and Naoyuki YAMAMOTO)

030 Use of Acceleration Sensor and Gyro Sensor for Gait Motion Analysis Aided by Wheeled Walking Frame (Satoru OKAMOTO and Kai NAKATA)

042 Chair with Exercise Effect by a Forward-declined Seat and a Footrest (Ken-ichi ITOSE, Tomoaki YAMAMOTO and Noriyasu HIROKAWA)

045 Simultaneous Water Entry of Many Poorly-Wetted Solid Spheres (Manabu IGUCHI, Akira SONOMOTO, Yoshiaki UEDA, Ryoji TSUJINO, Tatsuro WAKIMOTO and Kenji KATOH)

046 Proposal of a New Fluidized Bed Gasification System by using Tar Reformer (Takahiro MURAKAMI and Minoru ASAI)

048 Evaluation of Skills in Swing Technique in Classical Japanese Swordsmanship in Iaido Using Sensors (Satoru OKAMOTO and Satomi ADACHI)

049 Tensile Properties of Nitriding Tantalum (Yusaku WADA, Kiyotaka OBUNAI, Tadao FUKUTA, Hitoshi YAMAUCHI and Koichi OZAKI)

062 Collision Test of Abrasive Projectile Against Steel Sheet by Using Large Scale Launching System (Motonobu SATO, Hiroyuki YAMADA, Nagahisa OGASAWARA, Takayuki KITAJIMA and Akinori YUI)

063 Infrared Thermographic Testing with Distance Heating for Paint Delamination (Nagahisa OGASAWARA, Akari BAN, Hiroyuki YAMADA and Ryuji KOJIMA)

068 Heat Transfer Performance of Sodium Encapsulating Engine Valves (Toshiro KOBAYASHI, Itaru HASHIMOTO, Ritsuo HASHIMOTO, Hideyuki KANEMATSU, Yuichi UTSUMI and Motomichi YAMAMOTO)

078 Temperature and Stress of Ultraviolet-Curable Resin during Curing (Hiroto KOYAMA and Eisaku UMEZAKI)

079 In Vivo Three-Dimensional Analysis of Forearm Pronation/Supination (Kiyoko KAZAMA, Koichi KOBAYASHI, Tatsuya KONDO and Makoto SAKAMOTO)

088 Vibration Characteristics of an Elastically Supported Single Circular Cylinder under Steady and Pulsating Flow (Kazunori HOSOTANI, Takayuki ISHII and Mizuki HIRAO)

090 Effectiveness of an Accessory to Hold a Smartphone to Improve the Usability in Inputting Characters (Noriyasu HIROKAWA, Atsushi SAKAI, Yusuke SAWA, Ken-ichi ITOSE, Tadashi SHIBUE, Takashi HAYAMI, Toru SAWAI and Mitsushi OHMASA)

092 Application of Porous Ceramics Produced by Mixing Waste Glass Fiber Reinforced Plastic with Clay to Filtering Material for Turbid Water (Hiroyuki KINOSHITA, Shogo GOTO, Kentaro YASUI, Toshifumi YUJI, Yoshimi OKAMURA, Mitsuhiro SEZAKI and Shigeki SAWAYAMA)

093 The Radiant Heat Reducing Effect of Pavement Blocks Produced by Mixing Waste Glass Fiber-Reinforced Plastic with Clay (Yusuke YASUDA, Ryuusuke KAWAMURA, Hiroyuki KINOSHITA, Toshifumi YUJI, Yoshimi OKAMURA, Kentaro YASUI and Mitsuhiro SEZAKI)

095 Establishment of an Observation Method for Cathode Spots in AC TIG Welding (Kentaro YASUI, Hiroyuki KINOSHITA, Toshifumi YUJI, Atsushi FUJIMARU, Toshio BOUNO, Titinan METHONG, Shinichi TASHIRO and Manabu TANAKA)

097 Simultaneous Water Entry of a Pair of Poorly Wetted Spheres (Shota OTANI, Yoshiaki UEDA, Manabu IGUCHI, Ryoji TSUJINO, Tatsuro WAKIMOTO and Kenji KATOH)

099 Fabrication of Hollow Chloroprene Rubber Particles by Solvent Evaporation Method (Fumiharu YONEYAMA, Naoki KOBAYASHI and Toshinori MAKUTA)

101 Study on Geothermal Power Generation System Using Heat Pipe (Takaaki WAKITA and Koji MORI)

109 Characteristics of Vertical Upward Gas-liquid Two-phase Flow in Annulus (Nobuhiko YANO, Koji MORI, Tetsuya OKANO and Kengo KUDARA)

111 A Small Wind Tunnel with Lower Fluid Acceleration (Shinnosuke MATSUO, Hiroki SUZUKI, Yutaka HASEGAWA, Tatsuo USHIJIMA and Shinsuke MOCHIZUKI)

**Special Poster Session by Students of High School, College and College of Technology**

S001 Development of a Pseudo-Cutting Tool for Machine Tool Operational Acquisition (Daiki UMEMOTO and Shinichi IMAI)

S002 Development of Control Teaching Materials for a National Institute of Technology (Masaaki MAEBA and Shinichi IMAI)

S003 Development Omnidirectional Mobile Robot Using Elastic Exercise Balls (Shun KISHIKAWA and Takaya MARUYAMA)

S004 Study of Heating and Cooling Characteristics of Working Fluid Including Phase Change Material (Kota TANIMURA, Keita TAGAWA and Shin-ichi MORITA)

S005 Phase Change Characteristics of Nanosuspension as Latent Heat Storage Material (Koki HIRATA, Tomohiro HASE and Shin-ichi MORITA)

S006 Study of Growth Promotion of Agricultural Products by Ground Heat Soil Warming (Yuma KATSUBE, Daiki TAKEUCHI and Shin-ichi MORITA)

S007 Introduction to the Action for ET Robot Contest in Tsuyama College (Hiroaki HONDA, Rintaro YAMAMOTO, Atsushi ONISHI and Hitoshi SORI)

S008 Relationship between Liquid Film Thickness and Heat Transfer Characteristics in Falling-Film-Type Heat Exchanger (Tsuyoshi NAKAMURA, Yuki NAKAGAWA and Hiroyuki SHIRAIWA)

S009 Study on Enhancement of Boiling Heat Transfer on Vibrating Heating Surface (Kohei HAMAHATA and Hiroyuki SHIRAIWA)

S010 Mechanical Property on Earlywood and Latewood in Japanese Sugi (Ruri KAMIMATE, Akihiro TAKAHASHI, Naoyuki YAMAMOTO and Toshinobu TOYOHIRO)

S011 Prediction of Mean Stress in Buckling Behavior on A6063 and A5052 Aluminum Extrusion Tubes (Hirotaka TOKUDOME, Akihiro TAKAHASHI, Naoyuki YAMAMOTO and Yasuhiro NAKIYAMA)

S012 Strength Evaluation of 3D Printing Product Treated by Organic Solvent (Ren TOKUMARU, Akihiro TAKAHASHI and Naoyuki YAMAMOTO)

S013 Impact Property on Wrought Magnesium Alloy at Low Temperature (Kenta HATANAKA, Akihiro TAKAHASHI, Naoyuki YAMAMOTO, Hiromi MIURA and Masakazu KOBAYASHI)

S014 Stainless Steel Rectangular Tube Bonding by New Electric Resistance Welding (Yasutaka TOKITO, Akihiro TAKAHASHI and Naoyuki YAMAMOTO)

S015 Influence of Fiber Sectional Area on Mechanical Property of Bamboo Fiber (Shoyo MAEDA, Akihiro TAKAHASHI, Naoyuki YAMAMOTO and Toshinobu TOYOHIRO)

S016 Development on an Omnidirectional Robot with Step Climbing Mechanism (Ryotaro KOZONO and Natsuki TAKAGI)

S017 Development of a Robot Maneuvering Application for Android Smartphone (Shota MOMIKI and Natsuki TAKAGI)

S018 Development of a Simple Experimental Equipment Achieving Environmental Control for Plant Growth (Kouhei KAWAGOE and Natsuki TAKAGI)

S019 Influence of Fluorine to Synthesis Temperature in (Nd, Sm)-Ba-Cu-O Superconductors (Yuki SAKAMOTO, Tsugio HAMADA, Koki OTOKATA and Hideki NOJI)

S020 Analysis of Resistive Transition in Superconducting SrAuSi3 (Takaaki SHIMIZU, Tsugio HAMADA, Takehiro MIGITA and Shin-ichiro MATSUSHITA)

S021 Evaluation in Vertical Axis Wind Power Generator (Shin-nosuke TSUBOYAMA, Tsugio HAMADA and Toshio BOUNO)

S022 Soil Compaction Characteristics of Construction Machinery on a Site (Shunji KUME, Kotaro YAMASAKI and Tadaomi EGUCHI)

S023 Application of Numerical Simulations for Heat Treatment (Takumi MATSUDA and Takeshi GONDA)

S024 Cutting of Electrical Discharge Machined Layer on Cemented Carbide Surface (Kengo WADA and Takeshi MIYAMOTO)

S025 Frequency Analysis of Vascular Access Sound of Hemodialysis (Takuto KATAYOSE, Akitoshi MATSUDA and Aya MORISAKI)

S026 Air Turbines for Bi-directional Airflow (Haruka KATSUBE, Tomohiro TSUNEMATSU, M M Ashraful ALAM, Manabu TAKAO and Toshiaki SETOGUCHI)

S027 Fluidic Diode for Twin Unidirectional Impulse Turbine (Genya MASAKI, Hideki SATO, M M Ashraful ALAM, Manabu TAKAO and Toshiaki SETOGUCHI)