Wednesday, October 25

9:15-9:30 OPENING

9:30-10:45 Biomedical ultrasound I, High power ultrasound I
    Chair: Kohji Masuda (Tokyo Univ. of A&T)

1J1-1 Effect of various focusing schemes of ultrasound on stone erosion rate using cavitation bubbles
    Toshiya Yura†, Maxime Lafond, Shin Yoshizawa, Shin-ichiro Umemura (Tohoku Univ.)

1J1-2 A Preliminary Study of Portal Veins’ 3D Respiratory Motion Analysis with 3D Ultrasound
    Iori Terada†, Tomohiro Ueno, Koichi Ishizu, Yasutomo Fujii, Tsuyoshi Shiina, Naozo Sugimoto (Kyoto Univ.)

1J1-3 A Robust Method for Analyzing Acoustic Properties of Biological Specimens by Acoustic Microscopy
    Mototaka Arakawa†, Ryo Nagaoka†, Miki Horie†, Kazuto Kobayashi†, Hiroshi Kanai†, Yoshifumi Saijo† (Tohoku Univ.; Honda Electronics.)

1J1-4 Growth suppression effect of high-frequency ultrasound on microcystis aeruginosa
    Katsunori Mizuno†, Kenji Yoshida‡, Bong-seok Jeon†, Jisun Han†, Ho-Dong Park† (Univ. of Tokyo; Chiba Univ.; Shinshu Univ.)

1J1-5 Finite element analysis of acoustic streaming in a Kundt tube with bended wall
    Yuji Wada†, Kohei Yuge (Seikei Univ.)

10:45-11:45 Physical acoustics I, Measurement techniques I
    Chair: Hideyuki Nomura (Univ. of Electro-Comm.)

1J2-1 Local probing of magnetic hysteresis properties through acoustically stimulated electromagnetic response
    Yuhei Suzuki†, Hisato Yamada†, Tomohiro Ozaki†, Kazuhiko Noguchi†, Masahiro Iwata†, Kenji Ikushima† (Tokyo Univ. of A&T; IHI Inspection & Instrumentation Co., Ltd.; Denshijiki Industry)

1J2-2 Optical detection of picosecond acoustic waves generated in grating structures
    Osamu Matsuda†, Thomas Pezeril‡, Chaban Ievgeniia‡, Vitalyi Gusev‡ (Hokkaido Univ.; Université du Maine)

1J2-3 Defect imaging of a thin plate using evanescent modes of guided waves
    Takahiro Hayashi†, Misaki Fukuyama (Kyoto Univ.)

1J2-4 High efficiency ScAlN thick film hydrophone operating in the ranges of 40-80 MHz
    Ko-hei Sano†, Rei Karasawa, Takahiko Yanagitani‡, Ko-hei Chiba (Waseda Univ.; JST PRESTO; ZAIKEN)

11:45-13:00 LUNCH TIME

13:00-13:50 Plenary Talk I
    Chair: Takeshi Morita (Univ. of Tokyo)

1PL Development of a novel coating process, devices, and their technology transfer with the discovery of Room Temperature Impact Consolidation phenomenon
    Jun Akedo† (AIST)

14:00-14:45 Piezoelectric devices I
    Chair: Shoji Kakio (Univ. of Yamanashi)

1J3-1 Study for Frequency Response of SAW Devices with SiOₓNᵧ Film Using LiTaO₃ Substrate
    Atsushi Nishimura†, Satoru Matsuda, Yoshihiro Kabé, Hiroynuki Nakamura (Skyworks Solutions, Inc.)

1J3-2 3.5GHz LLSAW resonators on a composite substrate comprises a thin LiNbO₃ plate and multilayers
    Tetsuya Kimura†, Yutaka Kishimoto†, Masashi Omura†, Ken-ya Hashimoto‡ (Murata Manufacturing Co., Ltd.; Chiba Univ.)
1J3-3 Integrated VCOs employing FBARs for direct oscillation of Rb clock frequency
Motoaki Hara1, Yuichiro Yano1, Masatoshi Kajita1, Shinsuke Haras1, Akifumi Kasamatsu1, Hiroyuki Ito2, Tetsuya Ido3 (1Natl. Inst. of Information and Communications Tech.; 2Tokyo Tech.)

14:45-15:30 Resonator, Physical acoustics II Chair: Mami Matsukawa (Doshisha Univ.)

1J4-1 The resonant frequency control of the ultrasonic transducers by connecting electric elements
Hiroki Yokozawa1,†, Jens Twiefel2, Michael Weinstein2, Takeshi Morita1 (1Univ. of Tokyo; 2Leibniz Univ. Hannover)

1J4-2 Effects of highly energetic negative ions generated from Sc grains during sputtering deposition on electromechanical properties of ScAlN film
Shinji Takayanagi1,†, Takahiko Yanagitani2 (1Nagoya Inst. of Tech.; 2Waseda Univ.)

1J4-3 Influence of Sc substitution on acoustic properties of Ca3Ta(Ga0.9Sc0.1)3Si2O14 single crystal
Yu Igarashi1,†, Yuji Ohashi1,2, Kenji Inoue1, Akihiro Yamaji1, Yasuhiro Shoji1,2,3, Kei Kamada1,2,3, Shinji Takayanagi1,†, Takahiko Yanagitani2 (1Nagoya Inst. of Tech.; 2Waseda Univ.)

15:40-17:40 Poster Session Chair: Tsuyoshi Mihara (Tohoku Univ.)

1P1-1* High Temperature Properties of CaBi4Ti4O15/Ba0.7Sr0.3TiO3
Tomoya Yamamoto1, Kazuho Kiyofuji, Masaki Yugawa, Makiko Kobayashi (Kumamoto Univ.)

1P1-2* High Temperature Properties of CaBi4Ti4O15/Bi4Ti3O12
Kazuaki Okada1, Tomoya Yamamoto, Masaki Yugawa, Makiko Kobayashi (Kumamoto Univ.)

1P1-3 Measurement of Locally Resonant Band Gaps in a Surface Phononic Crystal with Inverted Conical Pillars
Jin-Chen Hsu1,†, Fan-Shun Lin (Natl. Yunlin Univ.)

1P1-4* Analysis of Elastic Vortex Waves in Optical Fiber for Optical Vortex Mode Conversion
Takuya Shoro1, Hiroki Kishikawa1, Nobuo Goto1, Yasumitsu Miyazaki2 (1Tokushima Univ.; 2Aichi Math. Tech. Lab.)

1P1-5* Application of resonant ultrasound spectroscopy to β-Ga2O3
Kanta Adachi1,†, Hirotugu Ogi1, Nobutomo Nakamura1, Hideyuki Watanabe2, Toshimitsu Ito1, Yasuko Ozaki2 (1Osaka Univ.; 2AIST)

1P1-6 Theoretical study on elastic properties of Si3N4O by ab-initio calculation
Seiya Tsuboi1,†, Kanta Adachi1, Akira Nagakubo1, Hirotugu Ogi1 (1Osaka Univ.; 2Kyoto Univ.)

1P1-7 Relaxation behavior of blood viscosity assessed by RheoSpec viscometer
Taichi Hirano1, Miki Hirano, Shujiro Mitani, Keiji Sakai (Univ. of Tokyo)

1P1-8* Increase in Q factor of Poly Phenylene Sulfide at high-amplitude ultrasonic vibration by thermal annealing
Jiang Wu1,†, Yosuke Mizuno, Kentaro Nakamura (Tokyo Tech.)

1P1-9 Elastic constant of alpha and beta tungsten films studied by picosecond ultrasonics
Akira Nagakubo1, Lee Huen Tae1, Yoshio Ueda1, Hirotugu Ogi1 (1Osaka Univ.; 2Kyoto Univ.)

1P2-1 Viscous-characteristics of glycerin water solutions with Q-factors of SC-cut QCM
Shin-ya Watanabe1, Yasuaki Watanabe, Yuhno Ma, Takayuki Sato (Tokyo Metro. Univ.)

1P2-2* Polished Surface Measurements at Ultraviolet Wavelengths for Laser-speckle Methods
Yunhao Ma1, Yasuaki Watanabe, Takayuki Sato (Tokyo Metro. Univ.)

1P2-3* Separation performance of longitudinal and shear waves using piezoelectric probe with two degree-of-freedom
Masafumi Aoyanagi1, Naoto Wakatsuki, Koichi Mizutani, Tadashi Ebihara (Univ. of Tsukuba)

1P2-4* A Flexible Ultrasonic Probe for Measuring from Curved Surface
Yuusuke Tanaka1, Mitsuyoshi Yoshida, Hidekazu Hoshino, Ryu Izumi, Yukio Ogura (Japan Probe Co., Ltd.)
1P2-5 Investigation on Application of Rectangular-Annular Element in Reflection Point Search by Single Sound Source
Hiroyuki Masuyama (NIT, Toba Coll.)

1P2-6 Evaluation of Design Parameters of Pipe Systems for Highly Pure Gases by Ball Surface Acoustic Wave Trace Moisture Analyzer
Toshihiro Tsuji1, Shingo Akao, Toru Oizumi, Hideyuki Fukushima, Tatsuro Okano, Nagisa Sato, Nobuo Takeda, Yusuke Tsukahara, Kazushi Yamanaka (Tohoku Univ.; Ball Wave Inc.)

1P2-7 Propagation Properties of Leaky Surface Acoustic Wave on Water-loaded Piezoelectric Substrate
Kyota Suenaga, Masashi Suzuki, Shojo Kakio, Yuji Ohashi, Mototaka Arakawa, Jun-ichi Kushibiki (Univ. of Yamanashi; Tohoku Univ.)

1P2-8 Development of portable Ball SAW Moisture Analyzer by using USB Pulsar
Shingo Akao, Tatsuro Okano, Toru Oizumi, Hideyuki Fukushima, Nagisa Sato, Nobuo Takeda, Yusuke Tsukahara, Toshihiro Tsuji, Kazushi Yamanaka (Ball Wave Inc.; Tohoku Univ.)

1P2-9 Attenuation characteristics of the leaky T(0,1) mode guided wave propagating in piping coated with anticorrosion grease
Hideo Nishino, Kohei Tateishi, Masashi Ishikawa, Takashi Furukawa, Motoki Goka (Tokushima Univ.; JAPEIC; Mitsubishi Chemical)

1P2-10 Development of a defect imaging method using ultrasonic time reversal analysis for heterogeneous anisotropic materials
Hirohisa Mizota, Yoshiaki Nagashima, Kazuyuki Nakahata (Hitachi, Ltd.; Ehime Univ.)

1P2-11 Proposal of low-frequency phased array for highly attenuative materials and its fundamental study for large amplitude incidence
Kosuke Kikuchi, Yoshikazu Ohara, Toshihiro Tsuji, Tsuyoshi Mihara (Tohoku Univ.)

1P2-12 Imaging of Branched Stress Corrosion Cracks by Subharmonic Phased Array for Crack Evaluation (SPACE)
Yoshikazu Ohara, Kazushi Yamanaka, Sinan Li, Toshihiro Tsuji, Tsuyoshi Mihara (Tohoku Univ.; Ball Wave Inc.; Verasonics Inc.)

1P2-13 Theoretical Analysis and Experimental Monitoring of Morphology Change of Thin Film during Deposition
Tomoya Ueno, Nobutomo Nakamura, Hirotsugu Ogi (Osaka Univ.)

1P2-14 Size Estimation of Multiple Defects in Billet from Time-of-flight Profile by Transmission Method
Ryuusuke Miyamoto, Koichi Mizutani, Naoto Wakatsuki, Tadashi Ebihara (Univ. of Tsukuba)

1P2-15 Mechanical properties of lithium-ion battery electrode
Ryo Inagaki, Tsuyoshi Noge, Keita Sonoda, Kenta Kirimoto, Yong Sun (Kyushu Inst. of Tech.; Aiake Natl. Coll. of Tech.)

1P3-1 High Coupling and Highly Stable Leaky SAWs on LiTaO3 Thin Plate Bonded to Quartz Substrate
Junki Hayashi, Kosuke Yamaya, Masashi Suzuki, Shojo Kakio, Haruka Suzuki, Toshifumi Yonai, Kazuhiro Kishida, Jun Mizuno (Univ. of Yamanashi; Waseda Univ.; The Japan Steel Works, Ltd.)

1P3-2 Theoretical Analysis of Longitudinal-type Leaky Surface Acoustic Wave on LiNbO3 with Oriented ScAlN Film
Masashi Suzuki, Masashi Gomi, Shojo Kakio (Univ. of Yamanashi)

1P3-3 Model Parameter Extraction of Lateral Propagating SAWs with Mode Coupling on TC-SAW Resonators
Benfeng Zhang, Tao Han, Xinyi Li, Yulin Huang, Tatsuya Omori, Ken-ya Hashimoto (Shanghai Jiao Tong Univ.; Chiba Univ.; Univ. of Electronic Sci. and Tech. of China)

1P3-4 Parameter Extraction of COM Equations Including Two SAW Coupling for TC-SAW Structures
Yulin Huang, Jingfu Bao, Xinyi Li, Benfeng Zhang, Tatsuya Omori, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China; Chiba Univ.; Shanghai Jiao Tong Univ.)

1P3-5 Wideband Acoustic Wave Resonators Composed of Hetero Acoustic Layer Structure
Michio Kadota, Shuji Tanaka (Tohoku Univ.)
1P3-6* Spurious Responses Modeling with Multi-mode COM Model on SiO2/LiNbO3 Substrate
Rei Goto†, Joji Fujiwara, Hiroyuki Nakamura (Skyworks Solutions, Inc.)

1P3-7 Study on Influence of Electrode Width of Interdigital Transducer on Third-order Nonlinear Signals of SAW Devices
Ryo Nakagawa††, Ken-ya Hashimoto† (Murata Manufacturing Co., Ltd.; †Chiba Univ.)

1P3-8 Power Durability Measurement of RF SAW/BAW Devices Considering Their TCF
Luyan Qu*, Tatsuya Omori, Ken-ya Hashimoto (Chiba Univ.)

1P3-9 A Study on High-Isolation SAW Duplexer with On-Chip Compensation Circuit
Masafumi Iwaki††, Masanori Ueda, Yoshio Satoh† (Taiyo Yuden Co., Ltd.; †Taiyo Yuden Mobile Technologies)

1P3-10* Acousto-optic and Electro-optic Modulators for Photonic Aharonov–Bohm Effect
Yuya Hiramatsu†, Masashi Suzuki, Shoji Kakio (Univ. of Yamanashi)

1P3-11* Acousto-optic Bragg Diffraction Using Longitudinal-type Leaky SAW
Kentaro Hakiri†, Masashi Suzuki, Shoji Kakio (Univ. of Yamanashi)

1P4-1* Excitation of Rayleigh Wave with Sapphire-LiNbO3 Mechanical Integration for Surface Acoustic Wave Motor
Deqing Kong†, Minoru Kuribayashi Kurowsawa (Tokyo Tech.)

1P4-2* A Study on Element Characteristics Compensation of Parametric Loudspeaker
Shota Kinjo†, Yoshifumi Nagata, Toyota Fujioka, Masato Abe (Iwate Univ.)

1P4-3* Ultrasonic metal welding by complex vibration source using planar vibration locus
Yosuke Tamada†, Takuya Asami, Hikaru Miura (Nihon Univ.)

1P4-4 Change of physical properties of conductive paste by applying ultrasonic vibration.
Eiji Sato†, Masahiko Jin (Nippon Inst. of Tech.)

1P4-5* Analysis of acoustic fountain generated by ultrasonic plane wave for different water depth
Soohyun Lim†, Jungsoon Kim‡, Kanglyeol Ha†, Moojoon Kim† (†Pukyong Natl. Univ.; ‡Tongmyong Univ.)

1P4-6 Nano particle Dispersionizer by using Ultrasonic Cavitation and Streaming
Moojoon Kim†, Jungsoon Kim‡ (†Pukyong Natl. Univ.; ‡Tongmyong Univ.)

1P4-7 Generation and Reduction of Ultrafine Bubble by Ultrasonic Irradiation
Yoshiyuki Asakura‡, Hodaka Matsushima‡, Keiji Yasuda† (‡Honda Electronics.; †Nagoya Univ.)

1P4-8* Influence of ultrasonic duty cycle on ultrasonically induced aggregation reaction of amyloid-β protein
Daisuke Nishioka†, Kentarou Noi, Hirotsugu Ogi (Osaka Univ.)

1P4-9* Viscosity Dependence of Acoustic Emission Spectra from Single Bubble Oscillation
Yuto Hatanaka†, Yuki Kurimoto (NIT, Gifu Coll.)

1P4-10 High power ultrasonic effect on compaction and analysis of radioactive sample for γ-ray spectroscopy
Jungsoon Kim†, Minseop Sim‡, Jihyang Kim‡, Moojoon Kim† (‡Tongmyong Univ.; †Pukyong Natl. Univ.)

1P4-11 Study of electric power generation by a thermoacoustic engine
Teruyuki Kozuka†, Arata Oshima†, Kyuuichi Yasui† (†Aichi Inst. of Tech.; ‡AIST)

1P4-12* Loop-tube-type thermoacoustic system saturated with water vapor -Observation of stability of low-temperature driving-
Sho Kawaminami†, Shin-ichi Sakamoto‡, Daichi Kuroki†, Yoshiaki Watanabe‡ (‡Doshisha Univ.; †Univ. of Shiga Pref.)

1P5-1 Transmission of shock waves by a focused carbon nano tube coated transducer through human skull cadaver
Minho Lee†, Dong-Guk Paeng‡, Kanglyeol Ha†, Min Joo Choi† (‡Jeju Natl. Univ.; †Pukyong Univ.)

1P5-2* Single underwater spark discharge-induced shock wave used for physical gene transfer method
Takumi Kobayashi†, Takaaki Hasebe, Naoki Osawa, Mieko Kogi, Koji Aizawa (Kanazawa Inst. of Tech.)
1P5-3 Development of focus controlling method with tFUS aided by numerical simulation for non-invasive brain therapy
Yohei Kobayashi¹, Takashi Azuma¹, Kazuya Shimizu¹, Masashi Koizumi¹, Tomomichi Oya², Ryo Suzuki¹, Kazuo Maruyama¹, Kazuhiro Seki¹, Shu Takagi¹ (¹Univ. of Tokyo; ²NCNP; ³Teikyo Univ.)

1P5-4 Reduction of Potential Side Effects Outside Focal Region by Suppressing Standing Waves in Cavitational Enhanced High-Intensity Focused Ultrasound Treatment
Kazuhiro Sakamoto¹, Daisaku Mashiko¹, Ryo Takagi¹, Shin Yoshizawa¹, Shin-ichiro Umemura¹ (¹Tohoku Univ.; ²AIST)

1P5-5 Enhancement of Efficiency in Ultrasonic Generation of Reactive Oxygen Species by Scanning Focus
Shinya Nishitaka¹, Daisaku Mashiko, Shin Yoshizawa, Shin-ichiro Umemura (Tohoku Univ.)

1P5-6 Study of acoustic field sweeping for active induction of bubble-surrounded T-cells
Riki Oitae¹, Takuya Otsuka¹, Masakazu Seki¹, Asuka Furutani¹, Takashi Mochizuki¹, Kohji Masuda¹, Ryo Suzuki¹, Kazuo Maruyama¹ (¹Tokyo Univ. of A&T; ²Teikyo Univ.)

1P5-7 Study of bending thin catheter by tempo-spatial division emission and effect of viscosity
Hitotaka Ushimizu¹, Toshiya Suzuki, Takashi Mochizuki, Kohji Masuda (Tokyo Univ. of A&T)

1P5-8 A Simple Technique for Evaluation of a High-intensity Focused Ultrasound Field Using Focused Shadowgraphy
Tsubasa Sakaki¹, Nobuki Kudo (Hokkaido Univ.)

1P5-9 Estimation of sonodynamic treatment region with chemosonoluminescence in gel phantom
Daisaku Mashiko¹, Shin-ya Nishitaka, Ryosuke Iwasaki, Maxime Lafond, Shin Yoshizawa, Shin-ichiro Umemura (Tohoku Univ.)

1P5-10 Selective detection of cavitation bubbles by triplet pulse sequence in high-intensity focused ultrasound treatment
Ryosuke Iwasaki¹, Ryo Nagaoka, Shin Yoshizawa, Shin-ichiro Umemura (Tohoku Univ.)

1P5-11 Observation of spatial-temporal dynamics of bubble cavitation during high-intensity ultrasound exposure
Ren Koda¹, Takumu Origasa, Toshitaka Nakajima, Yoshiuki Yamakoshi (Gunma Univ.)

1P5-12 Microbubble characterization based on analysis of echo signal obtained by pulse inversion method
Kenji Yoshida¹, Kazuki Tamura, Masaaki Omura, Tadasu Yamaguchi (Chiba Univ.)

1P5-13 Fast Decomposition Method Based on Adaptive Beamforming Technique with a Phase Rotation Parameter for the Analysis of Two Wave Phenomenon in Cancellous Bone
Hirofumi Taki¹, Yoshiki Nagatani¹, Mami Matsukawa¹, Shin-Ichi Izumi¹ (¹Tohoku Univ.; ²Kobe City Coll. Tech.; ³Doshisha Univ.)

1P5-14 Fabrication of bone phantoms with numerically designed cancellous bone patterns
Shohei Nakata¹, Satoshi Suzuki, Toshihiro Teraoka, Ryousuke Fukai, Masahiro Ohno (Chiba Inst. of Tech.)

1P5-15 Simulation study on the control of ultrasound propagation in cortical bone
Koki Takano¹, Masaya Saeki¹, Yoshiki Nagatani², Mami Matsukawa¹ (¹Doshisha Univ.; ²Kobe City Coll. Tech.)

1P5-16 Induced electrical potentials in cortical bone under shear ultrasound exposure
Taiki Makino¹, Koki Takano¹, Shoko Nakahashi¹, Daisuke Koyama¹, Shinji Takayanagi¹, Takahiko Yanagitani¹, Mami Matsukawa¹ (¹Doshisha Univ.; ²Nagoya Inst. of Tech.; ³Waseda Univ.)

1P5-17 Wavenumber Estimation of an Ultrasonic Guided Wave Propagating in Cortical Bone Using an Adaptive Signal Processing Technique with Information Theoretic Criteria
Shigeaki Okumura¹, Vu-Hieu Nguyen¹, Hirofumi Taki¹, Toru Sato¹ (¹Kyoto Univ.; ²Université Paris-Est; ³Tohoku Univ.)

1P5-18 Improvement of High Frequency Ultrasound Images by Correcting the Point Spread Function in a Coaxial Measurement with Optical Coherence Tomography
Naoshi Kashiwagura¹, Ryo Nagaoka¹, Kazuto Kobayashi¹, Yoshifumi Saijo¹ (¹Tohoku Univ.; ²Honda Electronics.)

1P5-19 Experimental and Numerical Observations of Piezoelectric Signal Generated in Cancellous Bone by an Ultrasound Wave
Atsushi Hosokawa¹ (Nat. Inst. Tech., Akashi Coll.)

1P6-1 Simulation of propagation of ship propeller cavitation pulse in shallow water area
Toshio Tsuchiya¹, Yukino Hirai, Etsuro Shimizu (Tokyo Univ. of Marine Sci. and Tech.)
Influence of frequency on sound propagation by sound source passing over self-break
Yoshiaki Tsurugaya¹, Toshiaki Kikuchi², Koichi Mizutani² (¹Sanyo PT; ²Natl. Defense Academy; ³Univ. of Tsukuba)

Measurement and Modelling of Ship Noise in Shallow Water
Yukino Hirai¹, Toshio Tsuchiya, Etsuro Shimizu (Tokyo Univ. of Marine Sci. and Tech.)

Study on depth and range estimation of sound source in deep water with a bottom mounted single hydrophone off Hatsushima Island in Sagami Bay
Ryoichi Iwase (JAMSTEC)

Basic Study on High Frequency Ultrasound Imaging of Shellfish in Sediment
Hiroki Suganuma¹, Katsunori Mizuno, Akira Asada (Univ. of Tokyo)

Variation of back scattering directivity of fish body including bone by difference of source frequency
Shunichii Fujii¹, Takenobu Tsuchiya, Nobuyuki Endoh (Kanagawa Univ.)

17:45-18:30 Organizing Committee Meeting (Oral presentation Hall)

Thursday, October 26

9:00-10:15 Physical acoustics III, Measurement techniques II
Chair: Oliver Wright (Hokkaido Univ.)

Measurement of Elastic Stiffness of Fe, Cr and Fe/Cr-Multilayer Films by Picosecond Ultrasound
Nobutomo Nakamura¹, Nobutaka Takeuchi, Hirotsugu Ogi (Osaka Univ.)

Investigation of the electro-induced 2D domain structures in LiTaO₃ crystal
Siarhei Barsukou¹,², Jun Kondoh, Sergei Khakhomov² (¹Shizuoka Univ.; ²Gomel State Univ.)

Perfect recovery USCT method for estimation of scatter distribution
Tianhan Tang¹, Takashi Azuma, Naoki Tomii, Hirofumi Nakamura, Ichiro Sakuma (Univ. of Tokyo)

Nonlinear Surface-Acoustic-Wave Phased Array with Fixed-Voltage Amplitude Subtraction Method
Hiromichi Nakajima¹, Yoshikazu Ohara, Toshihiro Tsuji, Tsuyoshi Mihara (Tohoku Univ.)

10:15-11:30 Piezoelectric devices II, High power ultrasound II, Ocean acoustics I
Chair: Tatsuoru Matsuoka (Nagoya Univ.)

Polarity inverted ScAlN films for application to transformer in rectenna
Rei Karasawa¹, Takahiko Yanagitani¹,²,³ (¹Waseda Univ.; ²JST PRESTO; ³ZAIKEN)

Application of Hierarchical Cascading Technique to FEM Simulation in BAW Devices
Xinyi Li¹,², Jingfu Bao¹, Yulin Huang², Benfeng Zhang², Tatsuya Omori¹, Ken-ya Hashimoto² (¹Univ. of Electronic Sci. and Tech. of China; ²Chiba Univ.; ³Shanghai Jiao Tong Univ.)

Numerical Simulations of Evaporation and Condensation of Water in a Thermoelectric Engine
Kyuichi Yasui¹, Noriya Izu (AIST)

Vibration Characteristics of LiNbO₃ Single Crystal Ultrasonic Transducer Driven by High Voltage Burst Wave
Yusuke Koral¹, Hiroyuki Nakano (Hitachi)

Signal feature extraction and detection for snapping shrimp noise
Jongmin Ahn¹, Hyeonsu Kim, Jehak Chung (Inha Univ.)

11:30-13:00 LUNCH TIME
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<td>Plenary Talk II</td>
<td>Chair: Pak-Kon Choi (Meiji Univ.)</td>
<td>Jun Kondoh (Shizuoka Univ.)</td>
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<td>14:00-16:00</td>
<td>Poster Session</td>
<td>Chair: Kazuyoshi Mori (Natl. Defense Academy)</td>
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<td>2P1-1*</td>
<td>Re-investigation of translational-orientational coupling behavior of nematogen in isotropic phase with non-nematogenic additives</td>
<td>Wataru Hanai, Tsuyoshi Yamaguchi, Tatsuro Matsuoka (Nagoya Univ.)</td>
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<td>2P1-2</td>
<td>Variational method with Legendre-basis-functions: calculation of acoustic phonon modes in nanowires</td>
<td>Seiji Mizuno (Hokkaido Univ.)</td>
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<td>2P1-3*</td>
<td>FDTD Simulation of shear wave propagation in subcutaneous region</td>
<td>Hayato Koyama, Marie Tabaru (Tokyo Tech.)</td>
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<td>2P1-4*</td>
<td>Phase sensitive detection of acoustically stimulated electromagnetic response in steel</td>
<td>Hisato Yamada, Junichi Yotsuji, Kenji Ikishima (Tokyo Univ. of A&amp;T; JFE Steel Corp.)</td>
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<td>2P1-5</td>
<td>Fabrication and Application of a CNT/PDMS Coated Optoacoustic Film Transducer</td>
<td>Xiaofeng Han, Kanglyeol Ha, Moojoon Kim, Gwansuk Kang, Min Moo Choi, Junghwan Oh (Pukyong Natl. Univ.; Jeju Natl. Univ.)</td>
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<td>2P1-6</td>
<td>Investigation on Lamb Wave Propagation in Anisotropic Plate using Large Aperture Line Focused (PVDF) Transducer</td>
<td>Seung soo Yang, Min jac Yu, Yun jac Chung, Young H. Kim (Korea Sci. Academy of KAIST)</td>
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<td>2P1-7</td>
<td>Fundamental Consideration on Numerical Analysis of the Vibrating Propagation on the Acoustic Waveguide for Coiled Stator Ultrasonic Motor</td>
<td>Seiya Ozeki, Keisuke Kurita, Noriaki Nakane, Toshio Sato, Shinichi Takeuchi (Toin Univ. of Yokohama; Tsukuba International Univ.)</td>
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<td>2P1-8*</td>
<td>Induced phonons by laser pulses for Brillouin scattering measurement</td>
<td>Alessandro Perino, Yoshiaki Shibagaki, Yutaka Hayashi, Mami Matsukawa (Doshisha Univ.)</td>
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<td>2P1-9*</td>
<td>c-Axis tilted ScAIN film on sapphire substrate for SAW devices with high electromechanical coupling</td>
<td>Shohei Tokuda, Shinji Takayanagi, Mami Matsukawa, Takahiko Yanagitani (Doshisha Univ.; Nagoya Inst. of Tech.; Waseda Univ.)</td>
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<td>2P1-10</td>
<td>Coherent Guided Acoustic Phonons in GaN/AIN Nanowire Superlattices.</td>
<td>Yuki Iwai, Seiji Mizuno (Hokkaido Univ.)</td>
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<td>2P2-1*</td>
<td>Non-contact Imaging Defect in Flat Plate Using Surface Wave Generated by Focus Aerial Ultrasonic Wave</td>
<td>Ayumu Osumi, Youichi Ito (Nihon Univ.)</td>
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<td>2P2-2*</td>
<td>Sound Speed Estimation for Underground Acoustical Imaging - A Study on Array Arrangement- Dais Chimura, Kengo Izumida, Ryo Toh, Shintarō Motooka (Chiba Inst. of Tech.)</td>
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<td>2P2-3</td>
<td>3D imaging of buried microstructures in a slab using picosecond acoustics</td>
<td>Paul H. Otsuka, Keishi Miyoshi, Sylvain Mezil, Motohiko Tomoda, Osamu Matsuda, Oliver B. Wright (Hokkaido Univ.)</td>
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<td>2P2-4*</td>
<td>Non-contact Diagnosis of Fire Damage of Mortar using Surface Acoustic Waves</td>
<td>Takuya Saito, Ayumu Osumi, Youichi Ito (Nihon Univ.)</td>
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<td>Indoor Experiment of Acoustical Positioning Method Using Transponders</td>
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Akiyoshi Fujiwara¹, Mototaka Arakawa, Hiroshi Kanai (Tohoku Univ.)

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Yuta Kumagai¹, Yuhei Aotani¹, Masanobu Kameda¹, Kenji Wada¹, Toshiyuki Matsunaka², Hiromichi Horinaka¹ (¹Univ. of Osaka Pref.; ²TU Research Lab)

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Miki Sada¹, Masayuki Tanabe, Masahiko Nishimoto (Kumamoto Univ.)

2P5-7 Tissue Characterization of Stools and Gas Using Abdominal Ultrasonography
Kanako Tomihara¹, Masayuki Tanabe¹, Junko Yotsuya¹, Michiaki Takii¹, Masahiko Nishimoto¹ (¹Kumamoto Univ.; ²Fuku Univ.; ³Mishima-Minami Hosp.)
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Seiya Ishikura1†, Norio Tagawa1, Masasumi Yoshizawa2, Takasuke Irie1,2
(1 Tokyo Met. Univ.; 2 Tokyo Met. Coll. Industrial Tech.; 3 Microsonic Co., Ltd.)

2P5-9 Super-Resolution Ultrasound Imaging Based on Change of Carrier Frequency and Synthetic Aperture System
Norio Tagawa1, Jing Zhu, Nguyen Chi Hai, Yihsin Ho, Kan Okubu (Tokyo Met. Univ.)

2P5-10 Reconstruction of Tissue Scatterer Distribution from Ultrasound Echo Bayesian Inference
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2P5-11 Development of Transducer for Photoacoustic Imaging Employing Sol-Gel Composite Spraying Technique
Masayuki Tanabe1†, Tai-Chien Wu2, Makiko Kobayashi1, Masahiko Nishimoto1, Che-Hua Yang2
(1 Kumamoto Univ.; 2 Natl. Taipei Univ. of Tech.)

2P5-12 Quantitative evaluation method of liver fibrosis based on multi-Rayleigh model with number estimation of tissue components in ultrasound B-mode image
Shohei Mori1†, Shinnosuke Hirata1, Tadashi Yamaguchi2, Hiroyuki Hachiya1 (Tokyo Tech.; 2 Chiba Univ.)

2P5-13 Influence on Amplitude Envelope Analysis due to Mixture of Scatterers with Different Acoustic Characteristics
Masato Sendo1†, Masaaki Omura, Kenji Yoshida, Tadashi Yamaguchi (Chiba Univ.)

2P5-14 Assessment of Red Blood Cell Aggregation of Diabetics by Analyzing Ultrasonic Scattering Property
Hiroki Sakaki1, Mototaka Arakawa1, Satoshi Yoshiro2, Yasushi Ishigaki2, Hiroshi Kanai1
(Tohoku Univ.; 2 Iwate Med. Univ.)

2P5-15 Theoretical Study on Relationship between Particle Diameter and Peak Frequency in Blood-Mimicking Suspension
Takayuki Sato1†, Ken Ikeda (Tokyo Met. Univ.)

2P5-16 Effect of various parameters on ultrasonic estimation of red blood cell aggregation degree
Yosuke Hanada1, Show Watanabe, Takayuki Sato (Tokyo Met. Univ.)

2P5-17 Application of annular array in biostructure evaluation by amplitude envelope analysis
Takeru Mizoguchi1†, Kazuki Tamura1, Jonathan Mamou2, Masaaki Omura1, Kazuyo Ito1, Kenji Yoshida1, Tadashi Yamaguchi1 (Chiba Univ.; 2 Lizzi Center for Biomedical Eng.)

2P5-18 Examination of optimal input parameters for evaluation of liver fibrosis based on multi-Rayleigh model
Chuang Zhang1†, Shohei Mori, Shinnosuke Hirata, Hiroyuki Hachiya (Tokyo Tech.)

2P6-1 A Study in Acoustic Monitoring of Small Change at Sea Bottom
Hanako Ogasawara1, Kazuyoshi Mori (Natl. Defense Academy)

2P6-2 Band Reject Filter Characteristics of Acoustic Metamaterial in Underwater Multipath Channels
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Ji Sung Park1, Donhyug Kang, Sungho Cho, Mira Kim (Korea Inst. of Ocean Sci. and Tech)

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Sungho Cho1, Donhyug Kang1, Ji Sung Park1, Jooyoung Hahn2
(Korea Inst. of Ocean Sci. and Tech; 2 Agency for Defense Dev.)

2P6-5 Performance Evaluation of the Rake Receiver in the Underwater Acoustic Communication System
Kyu-Chil Park1, JiHyun Park, Eun Young Lee (Pukyong Natl. Univ.)

2P6-6 Analysis of effects of multipath signal with nonuniform Doppler shift on vertical underwater acoustic communication
Mitsuyasu Deguchi1, Yukihiro Kida, Yoshitaka Watanabe, Takuya Shimura (JAMSTEC)

2P6-7 Evaluation of effects of multipath and co-channel interference on time reversal MIMO in underwater acoustic channel
Yukihiro Kida1, Mitsuyasu Deguchi, Takuya Shimura (JAMSTEC)
2E3-1* A proposal of compound amplitude envelope statistical analysis model considering low scatterer concentration
Kazuki Tamura1†, Kenji Yoshida1, Hiroyuki Hachiya2, Tadashi Yamaguchi1 (1Chiba Univ.; 2Tokyo Tech.)

2E3-2* Basic study on improvement of an axial resolution by correcting initial phases of photoacoustic waves in photoacoustic tomography
Ryo Nagaoka†, Shin Yoshizawa, Shin-ichiro Umemura, Yoshifumi Saijo (Tohoku Univ.)

2E3-3 Basic properties of distal-presented bone-conducted ultrasonic hearing
Seiji Nakagawa1, Riki Ogino, Gaik Sean Yap, Sho Otsuka (Chiba Univ.)

Friday, October 27

9:30-11:30 Poster Session
Chair: Hideyuki Hasegawa (Univ. of Toyama)

3P1-1* Simple and rapid measurement of hypersonic wave velocity by Brillouin scattering method
Yoshiaki Shibagaki1†, Masahiko Kawabe1, Shinji Takayanagi1, Takahiko Yanagitani1, Masashi Suzuki2, Shohei Tokuda, Mami Matsukawa (1Doshisha Univ.; 2Nagoya Inst. of Tech.; 3Waseda Univ.)

3P1-2* Film growth of c-axis parallel oriented ZnO films by RF magnetron sputtering for improvement of electromechanical properties
Kazuma Mori1†, Shinji Takayanagi1, Mami Matsukawa1, Takahiko Yanagitani1 (1Doshisha Univ.; 2Nagoya Inst. of Tech.; 3Waseda Univ.)

3P1-3* Control and Optical Visualization of Ultrasonic Propagation in Phononic Crystal
Kensuke Manabe1, Atsushi Ishikawa, Takefumi Kanda, Kenji Tsuruta (Okayama Univ.)

3P1-4* Theoretical modeling and experimental measurement for bandgap control of phononic crystals
Takahiro Nishino1, Atsushi Ishikawa, Kazuhiro Fujimori, Kenji Tsuruta (Okayama Univ.)

3P1-5* Electric field effect on polar nanoregions of uniaxial ferroelectric Sr$_x$Ba$_{1-x}$Nb$_2$O$_6$ with weak random fields studied by Brillouin scattering
Md Aftabuzzaman1, Jan Dec1, Wolfgang Kleemann4, Seiji Kojima1 (1Univ. of Tsukuba; 2Pabna Univ. of Sci. and Tech.; 3Univ. of Silesia; 4Duisburg-Essen Univ.)

3P1-6* Effect of Piezoelectric Powder Phase Permittivity on Pb(Zr, Ti)O$_3$/Pb(Zr, Ti)O$_3$ Thin Films
Yuto Kiyota1, Kei Nakatsuma, Makiko Kobayashi (Kumamoto Univ.)

3P1-7* Bi$_2$Ti$_2$O$_7$ Based Lead-Free Sol-Gel Composite Ultrasonic Transducers
Masaki Yugawa1, Tomoya Yamamoto, Makiko Kobayashi (Kumamoto Univ.)

3P1-8* Effect of Na impurity on the elastic constants of Al-5%Mg alloy
Kenichi Tanigaki1, Keitaro Horikawa, Hidetoshi Kobayashi, Kanta Adachi, Nobutomo Nakamura, Hirotugu Ogii (Osaka Univ.)

3P1-9* Design of phononic metamaterials for the control of gigahertz plate acoustic waves
Kentaro Fujita1, Motonobu Tomoda, Keisuke Inagaki, Oliver B. Wright, Osamu Matsuda (Hokkaido Univ.)

3P1-10 Liquid, glass and crystalline indomethacin studied by Brillouin scattering
Tomohiko Shibata, Seiji Kojima (Univ. of Tsukuba)

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Takeyoshi Uchida1, Masahiro Yoshioka, Youichi Matsuda, Ryuzo Horiuchi (AIST)
3P2-2 Estimation of water stress of plants by measurement of diurnal variation of natural frequency of leaves using ordinary CCD camera
Motoaki Sano¹, Chiharu Uchikawa, Yutaka Nakagawa, Takeyuki Ohdaira, Takashi Shirakawa, Tsuneyoshi Sugimoto (Toin Univ. of Yokohama)

3P2-3 Experimental study on the pressure wave propagation in the artificial arterial tree in brain
Shinya Shimada¹, Fumiaki Iwase¹, Mami Matsukawa¹, Pierre-Yves Lagree²
(¹Doshisha Univ.; ²Université Pierre et Marie Curie)

3P2-4 Measurement of carotid artery pulse wave by piezoelectric sensor ~ Examination of left / right difference ~
Ryo Tsurusaki¹, Shinya Shimada¹, Mami Matsukawa¹, Yoshinori Okuno², Kozue Saito², Kazuyuki Nagatsuka²
(¹Doshisha Univ.; ²Natl. Cerebral and Cardiovascular Center Hosp.)

3P2-5 Non-contact measurement of displacement vector on chest surface by breathing and heartbeat using airborne acoustic image
Taiki Hayashi¹, Shinnosuke Hirata, Hiroyuki Hachiya (Tokyo Tech.)

3P2-6 Study of non-contact measurement of sound speed in incline-sided phantom using pass-through airborne ultrasound
Daisuke Hanawa¹, Shinnosuke Hirata, Hiroyuki Hachiya (Tokyo Tech.)

3P2-7 Relationship between contact force and electrical impedance of bone-conducted sound transducer on human head
Satoki Ogiso¹, Koichi Mizutani, Naoto Wakatsuki, Keiichi Zempo, Yuka Maeda (Univ. of Tsukuba)

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Kentarou Nii¹, Hirotsugu Ogi (Osaka Univ.)

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Nur Dalila Bint Jalaluddin¹, Rahma Hutami Rahayu¹, Kyoichi Takanashi¹, Tomohiro Kawashima¹, Sachiko Yoshida¹, Yoshinobu Murakami¹, Naohiro Hozumi¹, Kazuto Kobayashi¹
(¹Toyohashi Univ. of Tech.; ²Honda Electronics.)

3P2-10 Harmonic Imaging and Thickness Measurement of Thermal Spray Coating by Immersion Local Resonance
Koichiro Kawashima¹, Kazunori Sakata², Katsuhiro Hosokawa², Koji Tagomori², Tomoyuki Ishihara²
(¹Ultrasonic Mat. Diag. Lab.; ²Fujiki Kosan Co.)

3P2-11 Development of an analytical method of nitropolycyclic aromatic hydrocarbons using ultraviolet-excitation micro-photothermal heterodyne-interferometer
Toshihiko Abe¹, Miki Isoda, Akira Harata (Kyushu Univ.)

3P2-12 Self-shape estimation algorithm for a flexible ultrasonic transducer array probe
Yoshiaki Nakajima¹, Naoki Tomii, Takashi Azuma, Ichiro Sakuma (Univ. of Tokyo)

3P2-13 Studies on Stability of Carbon Black Suspensions Probed by Dynamic Ultrasound Scattering Techniques
Motoki Ozaki¹, Tomohisa Norisuye, Hideyuki Nakanishi, Qui Tran-Cong-Miyata (Kyoto Inst. of Tech.)

3P2-14 Evaluation of Disturbance by Light Scattering Particles on Sound Field Measurement Based on Laser Deflection
Takanobu Kuroyama¹, Koichi Mizutani² (¹NIT, Gifu Coll.; ²Univ. of Tsukuba)

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Kazuko Sugimoto¹, Tsuneyoshi Sugimoto¹, Noriyuki Utagawa², Chitoise Kuroda²
(¹Toin Univ. of Yokohama; ²Sato Kogyo Co., Ltd.)

3P3-1 PMN paraelectric phase epitaxial film for DC field-induced frequency switchable filter
Takahiro Shimizu¹, Kiyotaka Wasa², Takahiko Yanagitani¹,²
(¹Waseda Univ.; ²Yokohama City Univ.; ³JST PRESTO; ⁴ZAIKEN)
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Minori Hurukawa¹, Masaki Yugawa, Tomoya Yamamoto, Hikaru Kouyama, Takao Namihira, Makiko Kobayashi (Kumamoto Univ.)

3P3-3° Wide-Band and High-Sensitive Ultrasound Transducer Composed of Very Thick PZT Diaphragm
Yuya Ishiguro², Norio Tagawa, Tsuyoshi Okubo (Tokyo Met. Univ.)

3P3-4° Analysis of the electromechanical characteristics of a piezoelectric multilayered structure for in-air ultrasound radiation
Hayeong Shim¹, Yongrae Roh (Kyungpook Natl. Univ.)

3P3-5° Minimization of thickness of ultrasonic transducer by using piezoelectric backing layer
Jiyoung Yeom¹, Jungsoon Kim², Kanglyeol Ha¹, Moojoon Kim¹ (¹Pukyong Natl. Univ.; ²Tongmyong Univ.)

3P3-6 Issue in adoption of lumped-parameter circuit for electromechanical coupling phenomenon and its improvement --- Modifying circuit structure
Michio Ohki¹ (Natl. Defense Academy)

3P3-7° Damage detection of damaged beam using impedance load SAW sensor
Kosuke Nagai¹, Jun Kondoh (Shizuoka Univ.)

3P3-8° Fundamental study on self-sensing of piezoelectric manipulator
Kenta Suzuki¹, Sze Keat Chee², Takeshi Morita¹ (¹Univ. of Tokyo; ²Mechano Transformer Corp.)

3P3-9° Observation of reflected and transmitted waves caused by acoustic streaming in droplet on SAW devices
Sota Tsunogaya¹, Jun Kondoh (Shizuoka Univ.)

3P3-10° Numerical Study of Microparticle Separation in a Microfluidic Channel Driven by Surface Acoustic Waves
Yu-Chun Chen¹, Jin-Chen Hsu (Natl. Yunlin Univ. of Sci. and Tech.)

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Kenta Imamura¹, Shiro Biwa (Kyoto Univ.)

3P4-2° Experiment Evaluation of Velocity Control in Linear Ultrasonic Motor Using a Link Twin Square Plate Vibrator
Takahiro Takaya¹, Hideki Tamura, Takehiro Takano (Tohoku Inst. of Tech.)

3P4-3° Influence of Electrode Arrangement in Surface Acoustic Wave Device for UltraSonic Welding by using PZT substrate
Hiroki Nakamura¹, Kengo Naruse², Yuji Watanabe¹ (¹Takushoku Univ.; ²Seidensha Electronics Co., Ltd.)

3P4-4° Generation of High-Power Ultrasonic Monopole Pulse for Application of Ultrasonic Machining
Sayuri Tarvainen¹, Guangyuan Wang, Yuji Watanabe (Takushoku Univ.)

3P4-5° Study on Residual Vibration Control of High Amplitude Ultrasonic Transducer
Guangyuan Wang¹, Sayuri Tarvainen, Yuji Watanabe (Takushoku Univ.)

3P4-6° Study on Relationship between Acoustic Cavitation Bubbles Behavior and Output Signal from Tough Hydrophone Using High-speed Camera
Nagaya Okada¹, Michihisa Shiiba², Shinobu Yamauchi¹, Toshio Sato¹, Shinichi Takeuchi² (¹Honda Electronics.; ²Nihon Inst. of Med. Sci.; ³Toin Univ. of Yokohama)

3P4-7 Simultaneous recovery and desulfurization of bitumen from oil sand using ultrasound irradiation
Hirokazu Okawa¹, Wan Mohamad Ikhwan bin Wan Kamal, Nobuyuki Akazawa, Takahiro Kato, Katsuyasu Sugawara (Akita Univ.)

3P4-8° Characterization of an Acoustic Field in Ultrasonic Cleaning Bath
Kazunari Suzuki¹, Hiroshi Hasegawa (Kaijo Corp.)

3P4-9° Utilization of Layered Double Hydroxide to Remove Arsenic and Suppress pH Decrement During Ultrasound Oxidation of Arsenious Acid
Yasuyuki Tanaka¹, Hirokazu Okawa, Yuya Takahashi, Takahiro Kato, Katsuyasu Sugawara (Akita Univ.)
Comparison of Oxidation Efficiency between Disposal of 2-Deoxyribose Using Ultrasound and Existing Method of Disposing Waste Water
Seoyeong Yang, Yunji Lee, Jungha Shim, Young H. Kim (Korea Sci. Academy of KAIST)

The Onset Temperature Measurement of the Straight-Tube-Type Thermoacoustic System with Diameter-Expanded Prime Mover: Influence of the Expanded Part Length
Kohei Egawa, Shin-ichi Sakamoto, Yuichiro Orino, Yuya Yamaga (Univ. of Shiga Pref.)

Comparison of onset temperature by stability analysis and experiment in changing inner diameter expansion position of loop tube type thermoacoustic system
Kenshiro Inui, Shin-ichi Sakamoto, Yuichiro Orino, Kohei Egawa, Takahiro Wada, Shintaro Kataoka (Univ. of Shiga Pref.)

Echo Simulation Method reflecting the Tissue Structure and Acoustic Characteristics of Skin
Masaaki Omura, Masato Sendo, Kenji Yoshida, Shinsuke Akita, Tadashi Yamaguchi (Chiba Univ.)

Basic Study on Speed of Sound Analysis in Multi-scale using Hundreds MHz Band Ultrasound
Takuya Ogawa, Masaaki Omura, Kazuyo Ito, Kazuki Tamura, Toshiki Matsuzaki, Kenji Yoshida, Tadashi Yamaguchi (Chiba Univ.)

Quantitative Monitoring for Cerebellar Abnormal Development of Acoustic Model Animals using Acoustic Impedance Pattern
Saki Iwamoto, Kyoichi Takanashi, Inna Seviaryna, Roman Maev, Kazuto Kobayashi, Naohiro Hozumi, Sachiko Yoshida (Toyohashi Univ. of Tech.; Univ. of Windsor; Honda Electronics.)

Quantitative Research of the Effects of Anticancer Drugs on Cultured Breast Cancer Cells Using Ultrasonic Microscope
Rahma Hutami Rahaya, Kyoichi Takanashi, Thomas Tiong Kwong Soon, Inna Seviaryna, Roman Maev, Kazuto Kobayashi, Naohiro Hozumi, Sachiko Yoshida (Toyohashi Univ. of Tech.; Univ. of Windsor; Honda Electronics.)

Frequency Characteristics of Vibration Generated by Dual Acoustic Radiation Force for Estimating Viscoelastic Properties of Biological Tissues
Ryoichi Watanabe, Mototaka Arakawa, Hiroshi Kanai (Tohoku Univ.)

Analysis of 2D motion velocity of common carotid arterial wall by estimation of phase shift and frequency of received ultrasonic echo
Akira Miyajo, Hideyuki Hasegawa (Univ. of Toyama)

2D motion velocity estimation using beamformed ultrasonic signal in Cartesian coordinate for measurement of cardiac dynamics
Kaori Kaburaki, Michiya Mozumi, Hideyuki Hasegawa (Univ. of Toyama)

Novel Estimation Method of Shear Wave Displacement Amplitude excited by Vibrator
Yoshiki Yamakoshi, Mayuko Yamazaki, Yoshino Ishimori, Kana Taniuchi (Gunma Univ.)

Basic study on estimation of two dimensional wavenumbers using phase of particle velocity
Masato Minagawa, Hideyuki Hasegawa, Tadashi Yamaguchi, Shin-ichi Yagi (Univ. of Toyama; Chiba Univ.; Meisei Univ.)

Investigation on maximum likelihood method for measurement of regional pulse wave velocity
Hideyuki Hasegawa (Univ. of Toyama)

Ultrasound Measurement and Analysis of Propagation of Myocardial Contraction Response in Heart Wall
Itsuki Kobayashi, Mototaka Arakawa, Hiroshi Kanai (Tohoku Univ.)

Analysis of Local Pulse Wave Velocity by Ultrasonic Measurement of Vibrations at Multiple Points on Arterial Wall
Mika Ito, Mototaka Arakawa, Hiroshi Kanai (Tohoku Univ.)

Accuracy Improvement in Measurement of Arterial Wall Elasticity by Applying Pulse Inversion to Phased Tracking Method
Yukiya Miyachi, Mototaka Arakawa, Hiroshi Kanai (FUJIFILM Corp.; Tohoku Univ.)
3P5-14  New Phase Matching Method for Ultrasonic Tissue Displacement Measurement
Chikayoshi Sumi† (Sophia Univ.)

3P5-15* Analysis Left Ventricle Blood Flow Patterns in Normal Subject by Echodynamography
Sri Oktamuliani1†, Kaoru Hasegawa2, Yoshihumi Saijo1,2 (Tohoku Univ.; *Tohoku Pharm. Univ. Hosp.)

3P5-16* Singular value decomposition of received ultrasound signal for separation of blood flow and cavitation
Hayato Ikeda2†, Ryo Nagaoka2, Maxime Lafond1, Shin Yoshizawa, Ryosuke Iwasaki1, Moe Maeda1, Shin-ichiro Umemura, Yoshihumi Saijo (Tohoku Univ.)

3P5-17  3D Blood Flow Vectors Obtained with Multi-Slice Flow Velocity Mapping
So Yaegashi1, Ryo Nagaoka1, Moe Maeda1, Sri Oktamuliani, Yoshihumi Saijo (Tohoku Univ.)

3P5-18* Deduction of two-dimensional blood flow vector by dual angle diverging waves from a cardiac sector probe
Moe Maeda1†, Ryo Nagaoka2, Hayato Ikeda2, So Yaegashi, Yoshihumi Saijo (Tohoku Univ.)

3P5-19* Study on Ultrasonic Measurement of Radial Arterial Pressure and Diameter at the Same Position
Kota Kudo1†, Mototaka Arakawa1, Hiroshi Kanai1, Kazuto Kobayashi1† (Tohoku Univ.; †Honda Electronics.)

3P6-1  The 3rd Sea Trial for Ambient Noise Imaging with Acoustic Lens
Kazuyoshi Mori1†, Hiroyuki Kawahara1, Hanako Ogasawara1, Takenobu Tsuchiya2† (Natl. Defense Academy; †Kanagawa Univ.)

3P6-2* Fundamental Study on Effect of Acoustic Matching Layer on Convex Aspherical Acoustic Lens for Installation in Bow of Small AUV
Hiroyuki Kawahara1†, Hanako Ogasawara, Kazuyoshi Mori (Natl. Defense Academy)

3P6-3  Optimal Design of a Sparse Planar Array Transducer for Underwater Vehicles by Inclusion of Crossstalk Effect
Yongrae Roh1†, Muhammad Shakeel Afzal (Kyungpook Natl. Univ.)

3P6-4* Optimal Design of the Structure of an Accelerometer to Maximize the Performance of Underwater Vector Hydrophones
Seonghun Pyo1†, Seongmin Lee, Yongrae Roh (Kyungpook Natl. Univ.)

3P6-5* Advanced study on Self-focusing effect of polarization inverted transmitter with up-chirp signal driving for sub aperture array
Kazuki Abukawa1†, Tomoo Sato1, Takenobu Tsuchiya1, Nobuyuki Endoh1, Sayuri Matsumoto1, Kageyoshi Katakura1† (The Port and Airport Res. Inst.; †Kanagawa Univ.)

3P6-6* Withdraw

11:30-13:00  LUNCH TIME

13:00-13:50  Plenary Talk III  Chair: Tsuyoshi Shiina (Kyoto Univ.)

3PL  Ultrasonic Tissue Characterization and quantitative diagnosis
Hiroyuki Hachiya1† (Tokyo Tech.)

14:00-15:15  Biomedical ultrasound III, High power ultrasound III
Chair: Suburu Kudo (Ishinomaki Senshu Univ.)

3J1-1* Quantitative elasticity imaging by shear wave speed evaluation using inverse filtering
Yasunari Takayama1†, Kengo Kondo, Takeshi Namita, Makoto Yamakawa, Tsuyoshi Shiina (Kyoto Univ.)

3J1-2 Measurement of Internal Temperature in Biological Tissue by Statistical Analysis of Ultrasonic Scattered Echoes
Michio Takeuchi1†, Yuta Matsu1, Tatsuuro Doi1, Yoshiyuki Takano1, Hideyuki Hasegawa2† (Tateyama Kagaku Device Tech. Co., Ltd.; †Univ. of Toyama)

3J1-3* Quantitative Measurement of Ultrasonic Pressure Field using combination of Optical Method and Nonlinear Acoustic Holography
Takuya Nakamura1†, Shin Yoshizawa, Shin-ichiro Umemura (Tohoku Univ.)
3J1-4* The relationship between piezoelectric high power property and linear property
Susumu Miyake\textsuperscript{1†}, Takashi Kasashima\textsuperscript{2}, Masato Yamazaki\textsuperscript{2}, Yasuyuki Okimura\textsuperscript{2}, Hajime Nagata\textsuperscript{3}, Takeshi Morita\textsuperscript{1}
\textsuperscript{1}Univ. of Tokyo; \textsuperscript{2}NGK SPARK PLUG Co., Ltd.; \textsuperscript{3}Tokyo Univ. of Sci.

3J1-5 Utilization of Carbon Dioxide to Synthesize Large Scorodite Particles under Ultrasound Irradiation
Yuya Kitamura, Hirokazu Okawa, Takahiro Kato, Katsuyasu Sugawara (Akita Univ.)

15:15-16:30 Ocean acoustics II, Measurement techniques III
Chair: Hiroyuki Hachiya (Tokyo Tech.)

3J2-1 Basic Study on Self-focusing Effect of Polarization Inverted Transmitter with Up-chirp Signal Driving for Sub-aperture Array
Sayuri Matsumoto\textsuperscript{1†}, Kageyoshi Katakura\textsuperscript{1}, Takenobu Tsuchiya\textsuperscript{2}, Nobuyuki Endoh\textsuperscript{2}
\textsuperscript{1}The Port and Airport Res. Inst.; \textsuperscript{2}Kanagawa Univ.

3J2-2 Multiuser communication with moving targets using adaptive time reversal
Takuya Shimura\textsuperscript{1}, Yukihiro Kida, Mitsuyasu Deguchi, Yoshitaka Watanabe (JAMSTEC)

3J2-3* Ultrasonic imaging of molten pool configuration using sound velocity compensation
Azusa Sugawara\textsuperscript{1†}, Takeshi Hoshi\textsuperscript{1}, Setsu Yamamoto\textsuperscript{1}, Jun Semboshi\textsuperscript{1}, Makoto Ochiai\textsuperscript{1}, Kazufumi Nomura\textsuperscript{2}, Satoru Asai\textsuperscript{2}
\textsuperscript{1}Toshiba; \textsuperscript{2}Osaka Univ.

3J2-4* Differentiation of C2C12 myoblast cells quantitatively assessed by change in acoustic properties using ultrasound microscopy
Kyoichi Takanashi\textsuperscript{1†}, Mamoru Washiya\textsuperscript{1}, Kazuki Ota\textsuperscript{1}, Sachiko Yoshida\textsuperscript{1}, Tomohiro Kawashima\textsuperscript{1}, Yoshinobu Murakami\textsuperscript{1}, Naohiro Hozumi\textsuperscript{1}, Kazuto Kobayashi\textsuperscript{1}
\textsuperscript{1}Toyohashi Univ. of Tech.; \textsuperscript{2}Honda Electronics.

3J2-5* An experimental study on acoustic sensing for occlusion area combining super-directional sound source and super-resolution signal processing
Yuya Asakura\textsuperscript{1†}, Kan Okubo, Norio Tagawa (Tokyo Met. Univ.)

16:30-16:45 CLOSING