The 30th Symposium on Ultrasonic Electronics (USE 2009) Program

† Speaker
* Applying to Young Scientists Award

Wednesday, November 18

9:50 Opening Celemony

10:00-10:45 Underwater Acoustics **Chair: Nobuyuki Endoh (Kanagawa University)**

1J6-1* Buried Object Imaging with Synthetic Aperture SONAR ###
Teiichiro Ikeda[1†] Kentaro Kato[2] Kunio Hashiba[1] Ryusuke Imai[2] Mitsuhiko Nanri[2]
([1]Hitachi Ltd., Central Research Laboratory; [2]Hitachi Ltd., Defense Systems Group)

1J6-2* Performance Evaluation of Chip-interleaving Method for Acoustic Communication ###
Tadashi Ebihara[†] Koichi Mizutani Naoto Wakatsuki (Univ. Tsukuba)

1J6-3 Converging of phase-conjugate wave for length of array in underground ###
Toshiaki Kikuchi[†] (Natinal Defense Academy)

10:45-10:50 Break

10:50-11:50 High Power Ultrasonics, Sonochemistry **Chair: Kentaro Nakamura (Tokyo Institute of Technology)**

1J4-1 The High-Precision Machining by Ultra Sonic Vibration Cutting Method with Using Lower-Young's Tool ###
Toshiaki Furusawa[1†] Tsuneyoshi Suzuki[2] Hirobumi Mugishima[2] Masanori Ito[1]
([1]School. Scie.&Eng., Teikyo Univ; [2]Suzuki Precion Ltd.)

1J4-2* Examination of Sandwich-type Multi-degree-of-freedom Spherical Ultrasonic Motor ###
Bo Lu[1†] Manabu Aoyagi[1] Takehiro Takano[2] Hideki Tamura[3]
([1]Muroran Institute of Technology; [2]Tohoku Institute of Technology; [3]Yamagata Univ.)

1J4-3* Visualization of cavitation behavior and sonochemical efficiency of a rectangular sonochemical reactor ###
Genki Sugiyama[1†] Yoshihiro Kojima[2] Yoshiyuki Asakura[3] Shinobu Koda[1]
([1]Nagoya Univ.; [2]Nagoya Univ.; [3]Honda Electronics)

1J4-4 Sonoluminescence of alkali-metal atoms in sulfuric acid: Comparison with water ###
Shin-ichi Hatanaka[1†] Shigeo Hayashi[1] Pak-Kon Choi[2] ([1]Univ. of Electro-Comm.; [2]Meiji Univ.)

11:50-13:10 Lunch

13:10-14:00 Invited Talk 1 **Chair: Kyuichi Yasui (AIST)**

1I-1 Ultrasonic Atomization for Controlled Mist Generation and Ethanol Separation --Visual Analysis and Process Development-- ###
Katsumi TSUCHIYA (Doshisha University)

14:00-16:00 Poster Session **Chair: Koichi Mizutani (University of Tsukuba)**

1P2-1 Further Correction of Measurement and Inference Errors in Piezoelectric Equivalent Inductance Components ###
Michio Ohki[†] (Natl. Def. Acad.)

1P2-2 Evaluation of irradiation embrittlement in RPV steels by EMAR measurements ###
Yasuhiro Kamada[1†] Toshihiro Ohtani[2] Hiroaki Kikuchi[1] Satoru Kobayashi[1]
([1]Iwate Univ.; [2]Shonan Institute of Technology)

1P2-3* Reconsidering of the communication method for a wearable device using ultrasonic waves ###
Shin-nosuke Suzuki[1†] Manabu Ishihara[1] Yukio Kobayashi[1] Nagaya Okada[2] Kazuto Kobayashi[2]
([1]Oyama N.C.T.; [2]Honda Electronics)

1P2-4 Measurement on Ultrasonic Attenuation Coefficient of Tissue Mimicking Materials ###
Tomoji Yoshida[†] Toshio Kondo (Tokushima Bunri Univ.)

1P2-5 C-mode observation of nonlinearity parameter B/A by automatic measurement ###
Shigemi Saito[1†] Jung-Ho Kim[2] ([1]Tokai Univ.; [2]GW Corp.)

1P2-6 Uncertainty factor of hydrophone active element diameter mesurement for sensitivity calibration ###
Masahiro Yoshioka[†] (National Institute of Advanced Industrial Science and Technology(AIST))

1P2-7* Numerical Analysis of Piezoelectric Sensor for Simultaneous Measurement of Liquid Density and Viscosity ###
Jun Takarada[1†] Naoto Wakatsuki[1] Koichi Mizutani[1] Ken Yamamoto[2] ([1]Univ. Tsukuba; [2]Kansai Univ.)

1P2-8 Calorimetric Method for Measuring High Ultrasonic Power by Using Distilled Water as the Heating Material -Effects of Waterbath Wall Material and Structure- ###
Tsuneo Kikuchi[†] Takeyoshi Uchida (NMIJ/AIST)

1P2-9* Temperature Dependence of an Ultrasonic Hydrogen Sensor ###
Masashi Sonoyama[1†] Hideaki Fujita[2] Yoshimine Kato[1] ([1]Kyushu Univ.; [2]Oriimec Corporation)

1P2-10 Measurement of Young's Modulus of Materials Using a Change in Motional Capacitance of the Electrical Equivalent Circuit of Quartz-Crystal Tuning-Fork Tactile Snesor ###
Hideaki Itoh[†] Naoki Hatakeyama (Shinshu Univ.)

1P2-11 Measurement of Mist Density Using Airborne Ultrasound ###
Tomohiro Akiyama Naoto Wakatsuki[†] Kojiro Nishimiya Koichi Mizutani (Univ. Tsukuba)

1P2-12 Feasibility Study on Temperature Profile Monitoring of Solidification Process Using Ultrasonic Method ###
Manabu Takahashi[1†] Ikuo Ihara[2] ([1]Graduate Student of Nagaoka Univ. of Technology; [2]Department of Mechanical Engineering, Nagaoka Univ. of Technology)

1P2-13 Ultrasonic Drain Flow Measurement Using Correlation Technique ###
Ichiro Nishimura[1†] Akira Yamada[2] Mitsutaka Uchida[2]
([1]Tokyo Denki Univ.; [2]Tokyo Univ. of Agriculture and Technology)

1P2-14 Group delay method for Evaluation of Layer Material Properties ###
Junjie Chang[1†] Junichi Nakayama[2] ([1]Japan probe Co. Ltd.; [2]Kyoto Institute of Technology)

1P2-15* Reflection Point Search by Rectangular Sound Source with Different Dimensions for Transmitting and Receiving ###
Hiroyuki Masuyama[†] (Toba Natl. Coll. Mar. Tech.)

1P2-16* Analysis of Therapeutic Ultrasound Pressure Field with Schlieren Optical System ###
Ryosuke Omura[†] Shin-ichiro Umemura Shin Yoshizawa (Tohoku Univ.)

1P2-17* Accuracy verification of visceral fat area measurement using ultrasound tomography ###
Koichiro Kawamoto[†] Akira Yamada Masao Wada (Tokyo Univ. A&T)

1P2-18* Study of Transducer Arrangement and Reconstruction Technique of Acoustic Computerized Tomography Using Flexibly Arranged Transducers ###
Ayumu Minamide[1,2†] Naoto Wakatsuki[1] Koichi Mizutani[1] ([1]Univ. Tsukuba; [2]JSPS Research Fellow)

1P2-19 Lateral Detecting Limit of Underground Imaging Owing To Directivity of Sound Source ###
Ryo TOH[†] Daiki ANDO Seiichi MOTOOKA
(Department of Electrical Electronics and Computer Engineering, Chiba Institute of Technology)

1P2-20 Development of high resolution photoelastic ultrasonic visualization system using pulse laser for the observation of sound field of 50 MHz phased array system ###
Tsuyoshi Mihara[†] Shou Washimori Takumi Hamashima Hatsuzo Tashiro (Univ. of Toyama)

1P2-21* Magnetic imaging by ultrasonic techniques ###
Hisato Yamada[†] Keisuke Nakamoto Kenji Ikushima (Tokyo Univ. of Agri. and Tech.)

1P2-22* Imaging of GHz surface acoustic wave through the photoelastic effect ###
Taiki Saito[†] Osamu Matsuda Motonobu Tomoda Oliver B. Wright (Hokkaido Univ.)

1P2-23 Development of inspection equipment for bottom edges of rails with guided waves ###
junjie Chang[1†] Katsumi Ohira[1] Tkahiro Hayasi[2] Keita Kataoka[3] ([1]Japan probe Co. Ltd.; [2]Nagoya Institute of Technology; [3]East Japan Railway Company)

1P2-24* An examination on CIP-ABC for Multi-Dimensional FDTD Acoustic Simulation ###
Yoshifumi Harada[1†] Kan Okubo[1] Norio Tagawa[1] Takao Tsuchiya[2]
([1]Tokyo Metropolitan Univ.; [2]Doshisha Univ.)

1P2-25 Simulation of wave propagation in an inner head for bone-conducted ultrasound ###
Yoh-ichi Fujisaka[1,3†] Atsushi Sakaguchi[2] Yoshiaki Watanabe[2] Seiji Nakagawa[3]
([1]RION; [2]Doshisha Univ.; [3]AIST)

1P2-26 A 3-D sound field rendering with digital boundary condition using GPU ###
Tsuchiya Takao[†] (Doshisha Univ.)

1P2-27* Nonlinear ultrasonic imaging of closed cracks using subtraction of responses at different loads ###
Makoto Hashimoto[†] Yoshikazu Ohara Hiroaki Endo Yohei Shintaku Kazushi Yamanaka (Tohoku Univ.)

1P2-28* Harmonic generation in Lamb wave in a plate with contacting interfaces ###
Masashi Eto[†] Shiro Biwa Eiji Matsumoto (Kyoto Univ.)

1P2-29 Detection and Imaging of Inclusions in Continuously-Casted Steel Plates ###
Koichiro Kawashima[1†] Toshihiro Ito[2] Yasuaki Nagata[3] ([1]Nagoya Inst. Tech. (Currently Nagoya Ind. Sci. Res. Inst.); [2]Nagoya Inst. Tech.; [3]Nippon Steel)

1P2-30 Improvement of Ultrasonic CT images for wood by consideration of the anisotropic acoustic property and interpolation based on ML-EM ###
Honghui Fan[†] Shuqiang Guo Hirotaka Yanagida Yasutaka Tamura (Yamagata Univ. Graduate School of Science and Engineering)

1P2-31* Acoustical Defect Reconstruction in Square Billet ###
Hideto Mitsui[†] Koichi Mizutani Naoto Wakatsuki (Univ. Tsukuba)

1P2-32* Development of Ball SAW Gas Chromatograph for Natural Gas Analysis ###
SHINGO AKAO[1,2,4†] Yutaro Yamamoto[1,4] Hiroki Nagai[1,4] Tsuneo Ohgi[2,4] Takayuki Yanagisawa[2,4] Kazuko Okubata[3,4] Hisaya Jige[3,4] Takeshi Fukiura[3,4] Norikata Nakaso[2,4] Toshihiro Tsuji[1,4] Kazushi Yamanaka[1,4] ([1]Tohoku Univ.; [2]TOPPAN Printing; [3]YAMATAKE; [4]JST-CREST)

1P2-33* Distinguish the Buried Objects of Extremely Shallow Underground by Frequency Response Using Scanning Laser Doppler Vibrometer ###
Touma Abe[†] Tsuneyoshi Sugimoto (Toin Univ.)

1P2-34* Validation of Applicability of Surface-wave Method Using Giant-magnetostriction Vibrator as Seismic Source ###
Akihiro Kamohara[1†] Youhei Kawamura[1] Yuya Nakahata[1] Hirokazu Okawa[2] Koichi Mizutani[1] ([1]Univ. Tsukuba; [2]Akita Univ.)

1P2-35* Optimization for Ultra-violet Photothermal Image Measured with Reflection Objective ###
Noriyuki Fujii[†] Akira Harata (Kyushu Univ.)

1P4-1 Modeling of parametric loudspeakers using the Gaussian-beam expansion technique ###
Chao Ye Ming Wu Shuaibin Wu Chenxi Huang Jun Yang[†] (Institute of Acoustics, Chinese Academy of Sciences)

1P4-2 The effects of the non-ideal ultrasound transducer on the performance of a parametric loudspeaker ###
Ming Wu[†] Chao Ye Shuaibin Wu Chenxi Huang Jun Wu (Institute of Acoustics, Chinese Academy of Sciences)

1P4-3 The comparative study of difference frequency waves generated from dual-frequency sound beams ###
Dengyong Ma[†] Jun Yang (Institute of Acoustics, Chinese Academy of Sciences)

1P4-4 Proposal of a loudspeaker for low frequency range by composite vibration type ultrasonic motor ###
Hiroki Saito[†] (Chiba Institute of Technology)

1P4-5 Simulation of friction characteristics of ultrasonic motors lubricated with oil ###
Kentaro Nakamura[1†] Takaaki Ishii[2] ([1]Tokyo Institute of Technology; [2]Yamanashi Univ.)

1P4-6* Experimental evaluation of ultrasonic motors lubricated with oil. ###
Takahiro Takeuchi[1†] Yusuke Nakamura[1] Yuki Keimoto[1] Takaaki Ishii[1] Kentaro Nakamura[2] ([1]Univ. of Yamanashi; [2]Tokyo Institute of Technology)

1P4-7 Study on Double-Mode Miniature Cantilever-Type Ultrasonic Motor using Lead-free Multilayer piezoelectric Ceramics ###
Yutaka Doshida[1†] Hiroyuki Shimizu[1] Taisei Irieda[1] Hideki Tamura[2] Yoshiro Tomikawa[2] Seiji Hirose[2] ([1]Taiyo Yuden Co.,Ltd.; [2]Yamagata Univ.)

1P4-8 Generation of Rotary Motion Using Straight Moving Ultrasonic Motors ###
Junji Matsuda[†] Tomoaki Watanabe Yoshitaka Kato Akira Nakano Mitsutaka Hikita (Kogakuin Univ.)

1P4-9* Configuration of an Ultrasonic Motor Comprising Bolt-clamped Langevin Transducers ###
Atsuyuki Suzuki[1†] Tomohiro Tanaka[1] Jiromaru Tsujino[2] ([1]Tokuyama College of Technology; [2]Kanagawa Univ.)

1P4-10* A Design and Characteristics for Mode-Coupling $LiNbO_3$ Ultrasonic Motor Depended on Length to Width Ratio of the Stator Vibrator ###
Hideki Tamura[1†] Takanori Morooka[1] Yasuhiro Yamayoshi[1] Manabu Aoyagi[2] Takeshiro Takano[3] Seiji Hirose[1] ([1]Yamagata Univ.; [2]Muroran Inst. of Tech.; [3]Tohoku Inst. of Tech.)

1P4-11 FEM Analysis of Sound Field Characteristics in Air Gaps of Noncontact Ultrasonic Motor with Flexural Standing Wave Vibration Disks ###
Yasuhiro Yamayoshi[†] Jun Shiina Hideki Tamura Seiji Hirose (Yamagata Univ.)

1P4-12* Miniaturization of traveling wave ultrasonic linear motor ###
Shuichi Kondo[†] Daisuke Koyama Kentaro Nakamura (Tokyo Tech)

1P4-13* An emulsion generating device by an ultrasonic vibration and a microchannel ###
Takuya Harada[†] Takefumi Kanda Koichi Suzumori Tsutomu Ono Sotaro Iwabuchi Kazuyuki Ito Ken-ichi Ogawara Kazutaka Higaki (Okayama Univ.)

1P4-14 Study of an acoustic field in micro channel ###
Teruyuki Kozuka[1†] Shinich Hatanaka[2] Kyuichi Yasui[1] Toru Tuziuti[1] Judy Lee[1] Atsuya Towata[1] ([1]AIST; [2]UEC)

1P4-15 Liquid Mixing using Streaming in Frequency-Modulated Ultrasonic Beams Radiated from SAW Devices ###
Miyuki Maezawa[1†] Rui Kamada[2] Takefumi Suda[3] Tomoo Kamakura[3]
([1]OLYMPUS; [2]Sony Engineering; [3]The Univ. of Electro-Communications)

1P4-16* Finite element analysis of acoustic streaming in an ultrasonic air pump. ###
Yuji Wada[†] Daisuke Koyama Kentaro Nakamura (Precision and Intelligence Laboratory, Tokyo Institute of Technology)

1P4-17* A Study on Loop-Tube Type Thermoacoustic Cooling System for Practical Use - Effect of Heat Pump Heat Exchanger Cross-Sectional Area on Sound Field and Cooling Capacity - ###
Yu Oishi[1†] Shin-ichi Sakamoto[2] Yuji Kitadani[1] Yoshiaki Watanabe[3] ([1]Faculty of Engineering, Dosisha Univ.; [2]Department of Electronic Systems Engineering, Univ. of Shiga prefecture; [3]Faculty of Life and Medical Sciences, Doshisha Univ.)

1P4-18* A study on sound field control in a thermoacoustic cooling system by applying a phase adjuster -Understanding by using sound field and P-ξ curve- ###
Shintaro KOMIYA[1†] Shin-ichi SAKAMOTO[2] Yuji KITADANI[1] Yoshiaki WATANABE[3]
([1]Faculty of Engineering, Doshisha Univ.; [2]Department of Electronic Systems Engineering, Univ. of Shiga Prefecture; [3]Faculty of Life and Medical Sciences, Doshisha Univ.)

1P4-19* New approach of silencer based on the thermoacoustic effect ###
Shin-ichi Sakamoto[1†] Daichi Tsukamoto[2] Yoshiaki Watanabe[2] ([1]Univ. of Shiga Prefecture; [2]Doshisha Univ.)

1P4-20 High-Speed Observation of Cavitation Burst Generated by Focused Ultrasound ###
Pak-Kon Choi[†] Tsuyoshi Furukawa (Meiji Univ.)

1P4-21 On the influence of surface active solute on ultrasonic waveform distortion in liquid containing air bubbles ###
Toru Tuziuti[†] Kyuichi Yasui Judy Lee Teruyuki Kozuka Atsuya Towata Yasuo Iida (AIST)

1P4-22* Investigation of cleaning effect by micro bubbles under ultrasonic irradiation ###
Yukio Tanimura[1†] Kenji Yoshida[2] Yoshiaki Watanabe[2] ([1]Facul. Eng., Doshisha Univ.; [2]Life & Medi. Sci., Doshisha Univ.)

1P4-23 FEM Calculation of Piezoelectric Property on the Geometrical Configuration of a Sonochemical Reactor ###
Nagaya Okada[†] Yoshiyuki Asakura (HONDA ELECTRONICS CO., LTD.)

1P4-24 Consideration of output signal from cylindrical hollow type cavitation sensor -Investigation by dissolved oxygen level and sonochemical luminescence- ###
Takeyoshi Uchida[1†] Hidenobu Sato[2] Shinichi Takeuchi[2] Tsuneo Kikuchi[1]
([1]NMIJ•AIST; [2]Toin Univ. of Yokohama)

1P4-25* Effects of pressure and temperature on the sonochemical reaction in a flow-type sonochemical reactor ###
Tsuyoshi Morita[1†] Yosihiro Kojima[1] Shinobu Koda[1] Yoshiyuki Asakura[2]
([1]Nagoya Univ; [2]Honda Electronics Co., Ltd.)

1P4-26* Sonochemical Reactions under Single and Dual Frequency in Different Geometry Sonoreactors ###
Younggyu Son[†] Myunghee Lim Mingcan Cui Jeehyeong Khim
(School of Civil, Environmental, and Architectural Engineering, Korea Univ.)

1P4-27 Dispersion method using focused ultrasonic field ###
Misun Jo[1†] Jungsoon Kim[2] Moojoon Kim[1] Kanglyeol Ha[1] Hyunmin Park[3] Mincheol Chu[3]
([1]Pukyong National Univ.; [2]Tongmyong Univ.; [3]Korea Research Institute of Standard and Science)

1P4-28 Uniform dispersion of solute clusters in liquid metal by ultrasound ###
Jeong IL Youn[†] Dae Gyun Ko Geun Hong Yu Young Jig Kim
(School of Advanced Materials and Engineering, Sungkyunkwan Univ.)

1P4-29* Effect of Ultrasound on Agglomeration and Redistribution of Microbubbles ###
Daisuke Kobayashi[†] Yoshiyuki Hayashida Koichi Terasaka (Keio Univ.)

1P4-30* Analysis of Energy Consumption in Ultrasonic Soil Washing Processes for the Diesel-Contaminated Soil ###
Sang-Geon Nam[†] Younggyu Son Sang-Hyun Cho Jihoon Cha Myunghee Lim Jeehyeong Khim (Korea univ.)

1P4-31* Ultrasound assisted Soil washing with Surfactant for the removal of Diesel ###
Sang-Hyun Cho[†] Younggyu Son Jihoon Cha Sang-geon Nam Myunghee Lim Jeehyeong Khim (Korea Univ.)

1P4-32* Enhanced soil-washing process by ultrasound for the diesel-contaminated soil. ###
Jihoon Cha[†] Younggyu Son Sang-Geon Nam Sang-Hyun Cho Mingcan Cui Jeehyeong Khim
(Department of Civil, Environmental and Architectural Engineering, Korea Univ.)

1P4-33* The use of ultrasound irradiation for extracting bitumen from oil sand ###
Hirokazu Okawa[1†] Tomonao Saito[1] Ryota Hosokawa[1] Takashi Nakamura[1] Youhei Kawamura[2]
([1]Akita Univ.; [2]Univ. of Tsukuba)

1P6-1 Numerical analysis of propagated pulse waveform in Luzow-Holm Bay of Antarctic Ocean ###
Takenobu Tsuchiya[1†] Sayuri Matsumoto[2] Ryuta Niikawa[1] Tetsuo Anada[1] Nobuyuki Endoh[1]
([1]Kanagawa Univ.; [2]PARI)

1P6-2 Influence on sound fields by propagation angle of internal wave. ###
Toshiaki Tsurugaya[1†] Toshiaki Kikuchi[2] Koichi Mizutani[3] Naoto Wakatsuki[3]
([1]NEC Corp., Univ. of Tsukuba; [2]NDA; [3]Univ. of Tsukuba)

1P6-3 Construction and release of the ocean acoustics calculation Web site ###
Toshio Tsuchiya[†] (JAMSTEC / TUMSAT)

1P6-4 Acoustic monitoring of water atomosphere in Lake Biwa ###
Takaharu KITAMURA[†] Yoshiaki WATANABE (Department of Life and medical sciences,Doshisha Univ.)

1P6-5 Influence of the Sediment Properties on the Range-Frequency Interference in Shallow Water ###
Jooyoung Hahn[†] (Korea Ocean Research & Development Institute)

1P6-6* A case study of sound propagations in consideration of ocean fluctuations ###
Hanako Ogasawara[†] Kazuyoshi Mori Toshiaki Nakamura (National Defense Academy)

1P6-7* Preliminary Result of Biological Transient Noise Observation Using 2 Sets of 4-Element Hydrophone Array ###
Haruki Kada[1†] Kazuyoshi Mori[1] Hanako Ogasawara[1] Toshiaki Nakamura[1] Takenobu Tsuchiya[2] Nobuyuki Endoh[2]
([1]National Defense Academy; [2]Kanagawa Univ.)

1P6-8* Acoustic Characteristics of Pure Snapping Shrimp Sound Observerd under Laboratory Conditions ###
Byoung-Nam Kim[†] Jooyoung Han Bok Kyoung Choi Bong-Chae Kim
(Korea Ocean Research and Development Institute)

1P6-9* Measurements of Breaking wave noise in the sea-cliff zone. ###
Sungho Cho[†] Jee Woong Choi (Hanyang Univ.)

1P6-10 A study on reduction of flow-induced noise in water using open-cell foam ###
Seongwook LEE[†] (Korea Ocean Research & Development Institute)

1P6-11* A stady of noncontact ultrasonic thickness gauging for steel structures in ports ###
Natsuki Yoshizumi[1†] Sayuri Matsumoto[1] Kageyoshi Katakura[1] Takashi Matsumoto[2]
Harumi Fukuda[2] Hideki Kume[2]
([1]Port and Airport Research Institute; [2]Ministry of Land, Infrastructure, Transport and Tourism Japan)

1P6-12* Acoustic Properties of Sediment in SONAR Frequency Range ###
Shinta Takano[1†] Teiichiro Ikeda[1] Ryusuke Imai[2] Ken Nishihira[2] Hiroshi Nozawa[3]
Masahiko Takano[2] Kunio Hashiba[1] Mitsuhiko Nanri[2]
([1]Hitachi, Ltd., Central Research Laboratory; [2]Hitachi, Ltd., Defense Systems Group ;
[3]Hitachi Information & Communication Engineering, Ltd.)

1P6-13* Basic Study on Long Range Acoustic Positioning for Cruising AUV ###
Yoshitaka Watanabe[1†] Hiroshi Ochi[1] Takuya Shimura[1] Taketo Hattori[2]
([1]Japan Agency for Marine-earth Science and Technology; [2]Nippon Marine Enterprises)

1P6-14 Numerical Analysis of Time Reversal Process for Target Range Estimation on Ambient Noise Imaging using Acoustic Lens ###
Kazuyoshi Mori[1†] Hanako Ogasawara[1] Toshiaki Nakamura[1] Takenobu Tsuchiya[2] Nobuyuki Endoh[2]
([1]National Defense Academy; [2]Kanagawa Univ.)

1P6-15* Design for Off-Axis Aplanatic Acoustic Mirror ###
Yuji Sato[1†] Koichi Mizutani[1] Naoto Wakatsuki[1] Toshiaki Nakamura[2]
([1]Univ. Tsukuba; [2]National Defense Academy)

1P6-16 Sutdy on Geometric Evaluation Method of Underwater Acoustic Lens ###
Sayuri MATSUMOTO[1†] Norihide TAKEYAMA[2] Takenobu TSUCHIYA[3] Nobuyuki ENDOH[3]
([1]PARI; [2]GENESIA; [3]Kanagawa Univ.)

16:00-16:45 Measurement techniques, Imaging, Nondestructive evaluation I Chair: Masahiro Ohno (Chiba Institute of Techonology)

1J2-1 Non-contact type viscometry using the displacement and phase of specimen liquid excited by aerial sound. ###
Youhei Kawasaki[†] Hidekazu Tai Tsutomu Kobayashi (Nihon Univ.)

1J2-2* Field Monitoring of Soil Moist State and Groundwater Level using Ultrasonic Waves ###
Kazuhiro Hirai[1†] Takefumi Suda[1] Nobutaka Hiraoka[1] Katsuhiko Tanaka[1] Kazunari Sako[1]
Ryoichi Fukagawa[1] Makoto Shimamura[2] Asako Togari[2]
([1]Ritsumeikan Univ.; [2]East Japan Railway Company)

1J2-3* Imaging of Acoustic Scattering Object Using Time Reversal Wave Interpolated Between Microphones ###
Kazuki Tsuguma[†] Hideto Mitsui Naoto Wakatsuki Koichi Mizutani (Univ. Tsukuba)

16:45-16:50 Break

16:50-17:35 Measurement techniques, Imaging, Nondestructive evaluation II Chair: Ken Yamada (Tohoku Gakuin Univ.)

1J2-4 Evaluation of Elastic Inhomogeneity in ZnO Crystal by Means of the Micro-LFB Ultrasonic Material Characterization System ###
Sho Yoshida† Yuji Ohashi Mototaka Arakawa Jun-ichi Kushibiki Noboru Sakagami
(Graduate School of Engineering, Tohoku Univ.)

1J2-5* Evaluation of oxygen precipitates in Si wafer by resonance ultrasound microscopy ###
Hiroki Yoshida[1†] Hirotsugu Ogi[1] Masahiko Hirao[1] Kazuhito Matsukawa[2] Hirofumi Harada[3]
([1]Graduate school of engineering science, Osaka Univ.; [2]RenesasTechnology Corporation; [3]Siltronic Japan Corporation)

1J2-6 Efficient nondestructive evaluation of pipes by multireflecting guided wave energy trapping method ###
Hideo Nishino† Keiji Ogura kenichi Yoshida (Tokushima Univ.)

Thursday, November 19

9:10-9:55 Oral Session in English I Chair: Tatsuro Matsuoka (Nagoya University)

2E4-1 Enhanced Drainage Capability Installed in Soft Clays due to Vibration Energy of PVDF (polyvinylidene fluoride) Film ###
Young Uk Kim† (Myongji Univ.)

2E4-2* Downsizing of the loop-tube-type cooling system~Effect of the installation position of heat pump and working gas in the tube~ ###
Kohei Hotta[1†] Shin-ichi Sakamoto[2] Daichi Tsukamoto[1] Yoshiaki Watanabe[3]
([1]Faculty of Engineering, Doshisha Univ. ; [2]Department of Electronic Systems Engineering, Univ. of Shiga Prefecture; [3]Faculty of Life and Medical Sciences, Doshisha Univ.)

2E4-3 Numerical simulations of destruction of encapsulated microbubbles with bubble-bubble interaction ###
Kyuichi Yasui† Judy Lee Toru Tuziuti Teruyuki Kozuka Atsuya Towata (AIST)

9:55-11:55 Poster Session Chair: Mami Matsukawa (Doshisha University)

2P1-1* Evaluation of ultrasonic attenuation in oxide thin films using Brillouin oscillations exited by wavelength-tunable picosecond ultrasound ###
Kei Morita† Hirotsugu Ogi Nobutomo Nakamura Masahiko Hirao
(Graduate School of Engineering Science, Osaka Univ.)

2P1-2 Elastic property of Fe/Pt superlattice studied by picosecond ultrasounds. ###
Atsuyoshi Uranishi† Nobutomo Nakamura Hirotsugu Ogi Masahiko Hirao
(Graduate School of Engineering Science, Osaka Univ.)

2P1-3 Destructive inspection of Weld Defect and its Nondestructive Evaluation by Photoacoustic Microscopy ###
Haruo Endoh Ryosuke Kato Daijiroh Shiraishi † Tsutomu Hoshimiya (Tohoku Gakuin Univ.)

2P1-4* Vibrations of nanostructures probed by ultrashort optical pulses ###
Hirotaka Sakuma† Motonobu Tomoda Osamu Matsuda Oliver B. Wright (Grad. Sch. Eng., Hokkaido Univ.)

2P1-5 Amplitude and phase of photo thermal signal in leaf of a plant " scheffelera arboricola " measured by PVDF sensor ###
Tokunaga Yoshiaki Masatoshi Yoshimura† Koji Aizawa Junji Hirama (Kanazawa institute of technology)

2P1-6* Characterization of Defects in $LiNbO_3$ Using PPE Method and IR Thermal Imaging Camera ###
Kunyong Lee[1†] Hisashi Miyazaki[1] Yoichi Okamoto[1] Jun Morimoto[1] Kohji Toda[2]
([1]Dept. of MSE, NDA; [2]Dept. of MSE, Tokyo City Univ.)

2P1-7 Evaluation of RGB-LD generated photoacoustic images ###
Tomoaki Takatsu† Haruo Endoh Tsutomu Hoshimiya
(Graduate School of Engineering, Tohoku Gakuin Univ.)

2P1-8 Active thermographic imaging with a moving line-focus laser beam ###
Tomoaki Takatsu Nana Doi† Haruo Endoh Tsutomu Hoshimiya
(Graduate School of Engineering, Tohoku Gakuin Univ.)

2P1-9 Estimation of Thermal Diffusivities of High Polymer Transparent Films by Laser Induced Thermal Wave ###
Akiyuki Minamide[1†] Hiroyuki Kobayashi[2] Masatoshi Yoshimura[2] Koji Aizawa[2] Yoshiaki Tokunaga[2]
([1]Kanazawa Tech. College; [2]Kanazawa Inst. of Tech.)

2P1-10* Direct measurement of surface displacement in picosecond laser ultrasonics ###
Atsushi Ohno† Osamu Matsuda Motonobu Tomoda Oliver B. Wright (Hokkaido Univ.)

2P1-11 A study of the recombination process at the *p-n* junction interface by the photoexcited-carrier-concentration controlled piezoelectric photothermal method. ###
Hitoshi Tamura[1†] Toshihiro Iki[1] Tatuya Miyamoto[1] Kentarou Sakai[2] Atsuhiko Fukuyama[1] Tetsuo Ikari[1]
([1]Faculty of Engineering, Univ. of Miyazaki ; [2]Cooperative Research Center, Univ. of Miyazaki)

2P2-1 Study of Accuracy Improvement for Ultrasonic Positioning Method Installed in Sensor Network ###
Tomoaki Watanabe[†] Akira Nakano Jyunji Matsuda Yoshitaka Kato Mitsutaka Hikita (Kogakuin Univ.)

2P2-2 Characterization of Hydride Orientation in Zircaloy Cladding Tubes with a Laser Ultrasound Technique ###
Cheng-Hung Yeh[†] Che-Hua Yang (National Taipei Univ. of Technology)

2P2-3 Characterization of Layered Material Properties in Solid Oxide Fuel Cells using a Laser Ultrasound Technique ###
Tsung-Mao Kao[†] Che-Hua Yang (National Taipei Univ. of Technology)

2P2-4 Propagation Behaviors of ASF modes Propagating Along Wedge Tips with Defects ###
Yu-Hong Chen[†] Che-Hua Yang (National Taipei Univ. of Technology)

2P2-5 Characterizing hydride rims on Zircaloy tubes with laser ultrasound technique ###
I-Hung Liu[†] Che-Hua Yang (National Taipei Univ. of Technology)

2P2-6* Estimation of Acoustic reflection characteristics of human target ###
Ryosuke Fukushima[†] Jun-ya Takayama Hiroyuki Hachiya (Tokyo Institute of Technology)

2P2-7 Transverse Velocity Measurement of Particle Flow Passing across an Ultrasonic Beam ###
Juei Igarashi[1,2†] Koichi Mizutani[1] Naoto Wakatsuki[1] ([1]Univ. Tsukuba; [2]Schlumberger K.K.)

2P2-8 On the Use of Trapped-Energy Mode of Backward-Wave-Type Thickness Vibration for Liquid-Level Sensing ###
Shuichi Seto[†] Shuhei Horiuchi Ken Yamada (Tohoku Gakuin Univ.)

2P2-9 Mode Visualization System for Piezoelectric Resonators in High Temperature Environment ###
Tomoyuki Ishii[†] Yasuaki Watanabe Yuichiro Yano Shigeyoshi Goka Takayuki Sato Hitoshi Sekimoto (T. M. U.)

2P2-10* Estimation of Sound Velocity Distribution Using Global Heuristic Search ###
Takeshi Ohbuchi[1†] Tadashi Ebihara[1] Koichi Mizutani[1] Naoto Wakatsuki[1] Hiroyuki Masuyama[2]
([1]Univ. Tsukuba; [2]Toba Natl. Coll. Mar. Tech.)

2P2-11* Parallel Simultaneous Transmission Air Flow Tomography Using Code Modulation Signal ###
Shougo Takata[†] Akira Yamada Haiyue Li (Graguate School Of Bio-Application And System Engineering , Tokyo Univ. A & T)

2P2-12* A Novel Scheme for Numerical Simulation of Acoustic Wave Propagation Using Generalized CIP(*m,n*) Method ###
Naoki Kawada[1†] Kan Okubo[2] Norio Tagawa[2] Takao Tsuchiya[3]
([1]Faculty of System Design, Tokyo Metropolitan Univ.; [2]Graduate School of System Design, Tokyo Metropolitan Univ.; [3]Doshisha Univ.)

2P2-13 Analyses of the Insulators' Radiation Noises for Error Detection ###
Kyu Chil Park[†] JongRak Yoon (Pukyong Nat'l Univ.)

2P2-14* Observation of closed crack distribution by steering intense ultrasound and with shoe to house transmitter and receiver ###
YOHEI SHINTAKU[†] YOSHIKAZU OHARA HIROAKI ENDO MAKOTO HASHIMOTO KAZUSHI YAMANAKA (Tohoku Univ.)

2P2-15* Second Harmonic Components Detection for Fastening Bolts Using Double-Layered Piezoelectric Transducer ###
Makoto Fukuda[†] Kazuhiro Yoshida Kazuhiko Imano (Faculty of Engineering and Resource Science, Akita Univ.)

2P2-16* Nonlinear propagation of amplitude-modulated wave in C/C composite ###
Kazuyoshi Nagae[†] Shiro Biwa Eiji Matsumoto (Kyoto.Univ.)

2P2-17 FBG-based vibration measurement of rotating structure using optical fiber rotaly joint ###
Satoshi Tanaka[†] Atsushi Wada Nobuaki Takahashi (National Defense Academy)

2P2-18 Anemometer Using Long Baseline Acoustic Probe with Precise Wireless Trigger ###
Naoto Wakatsuki[†] Shin Kinjo Jun Takarada Koichi Mizutani (Univ. Tsukuba)

2P2-19 Measurement of acoustic charastaristics in underground with groundwater ###
Hiroyuki Hachiya[1] Takeshi Nishiyama[1†] Hiromichi Miyazaki[2] Takahiro Kondoh[2]
Michio Matsumoto[2] ([1]Tokyo Institute of Technology; [2]Taisei Corporation)

2P2-20 Application of photoacoustic technique for characterization of thermal diffusivities of nanostructured TiO2 films ###
Tomohiro Nin[†] Qing Shen Taro Toyoda (Depertment of Applied Physics and Chemistry The Univ. of Electro-Communication)

2P3-1* Development of Forward Flush Method for Ball SAW Gas Chromatograph ###
Yutaro Yamamoto[1,3†] Shingo Akao[1,2,3] Toshihiro Sakamoto[1] Kazushi Yamanaka[1,3]
([1]Tohoku univ.; [2]TOPPAN PRINTING; [3]JST, CREST)

2P3-2* Development of methanol sensor using SH-SAW for direct methanol fuel cell ###
Satoru Mikuni[1†] Jun Kondoh[1] Tomoaki Morikawa[2] Naomi Sawada[2] Tohru Ohta[2]
([1]Shizuoka Univ.; [2]Suzuki Motor Corporation)

2P3-3* Measurements of liquid using reflected type SH-SAW sensor ###
Masaya Ogura[1†] Jun Kondoh[1] Mitsuo Aratono[2] Shinji Murata[2] ([1]Shizuoka Univ.; [2]Alps Electric Co., LTD.)

2P3-4 Contour-mode AlN Resonator with High Coupling Factor ###
Atsushi Isobe[†] Kengo Asai (Hitachi Ltd., Central Research Laboratory)

2P3-5 Multilayer scanning of RF BAW device for focus adjustment by laser probe system ###
Nan Wu[†] Ken-ya Hashimoto Tatsuya Omori Masatsune Yamaguchi
(Graduate School of Engineering, Chiba Univ.)

2P3-6* Quantitative Analysis of Power Leakage in a FBAR Device at the Anti-Resonance Frequency ###
Florian Thalmayr[1†] Ken-ya Hashimoto[1] Masanori Ueda[2] Tatsuya Omori[1] Masatsune Yamaguchi[1]
([1]Chiba Univ.; [2]Fujitsu Laboratories)

2P3-7* A Basic Study on AlGaN/GaN SAW resonator ###
Satoshi Oshiyama[†] Keishin Koh Kohji Hohkawa (Kanagawa Institute of Technology)

2P3-8* A Basic Study on Mode Coupling SAW Devices with Face to Face Bonding ###
Hiroyuki Okitsu[†] Keishin Koh Kohji Hohkawa (Kanagawa Institute of Technology)

2P3-9 Phase Linear•Flat Wide Band•Low Loss Filters Using New Configuration of Unidirectional Up-Chirp and Down-Chirp Dispersive Inter Digital Transducers ###
Yusuke Satoh[†] Kazuhiko Yamanouchi (Tohoku Institute of Technology)

2P3-10 Characteristics of ZnO thin film surface acoustic wave devices fabricated using aluminum oxide film on silicon substrates ###
Wen-Ching SHIH Tzyy-Long WANG[†] Ming-Hsien Chu Mu-Shiang Wu (Tatung Univ.)

2P3-11* A Consideration for Developing Tunable Ladder-type Acoustic Filters ###
Tomoya Komatsu[†] Ken-ya Hashimoto Tatsuya Omori Masatsune Yamaguchi (Chiba Univ.)

2P4-2* Effect of surface finish on mechanical properties of PCB joints bonded using ultrasonic energy ###
Jong Bum Lee[†] Jong Gun Lee Seung Boo Jung (Sungkyunkwan Univ.)

2P4-3* Evaluation of high ductile ENIG plated electrodes bonded with transverse ultrasonic ###
Jong Gun Lee[1†] Jong Bum Lee[1] Jeong Hoon Moon[2] Seung Boo Jung[1]
([1]Sungkyunkwan Univ.; [2]Suwon Science College)

2P4-4* Characteristics of longitudinal vibration to cut a circle shape by ultrasonic vibration ###
Takuya Asami[†] Hikaru Miura (College of Science and Technology, Nihon Univ.)

2P4-5* Examination on a high power Aerial Ultrasonic Generator using a Cross type Direction Changer for Longitudinal Vibration ###
Youichi Ito Tatsuro Kaneda[†] (Nihon Univ)

2P4-6* Removal of the liquid in a small hole opened at both ends by high intensity aerial ultrasonic waves ###
Youichi Ito Eri Takamura[†] (Nihoku Univ.)

2P4-7 Effect of initial concentration and frequency on sonochemical degradation of phenol ###
Lam Hoang Pham[1†] Younggyu Son[2] Myunghee Lim[3] Mingcan Cui[4] Jeehyeong Khim[5]
([1]Korea Univ.; [2]Korea Univ.; [3]Korea Univ.; [4]Korea Univ.; [5]Korea Univ.)

2P4-8 Direct US/O3 combination treatment of hormone in aqueous solutions ###
Cui ming can[1] Sun young gyu[2] Lim myung hee[3] Khim jee hyeong[4†]
([1]Korea Univisity; [2]korea univisity; [3]korea univisity; [4]korea univisity)

2P4-9* Sonochemical degradation of phenol and aniline in aqueous solution ###
Kenta Ishikawa[1†] Ben Nanzai[2] Kenji Okitsu[1] Norimichi Takenaka[1] Hiroshi Bandow[1]
([1]Osaka Prefecture Univ.; [2]Kanagawa Univ.)

2P4-10* Effect of Ultrasonic Frequency on Chlorinated Compounds Degradation ###
Myunghee Lim[†] Younggyu Son Mingcan Cui Jeehyeong Khim (Korea Univ.)

2P4-11 Sonophotocatalysis for the degradation of azo dye(C.I. Reactive Black 5) ###
Eunju CHO[†] Younggyu SON Hyunjun KIM Junghyun LIM Myunghee LIM Jeehyeong KHIM (Korea Univ.)

2P4-12* Sonophotochemical Degradiation of Phenol with Solid Catalysts ###
Hyunjun Kim[†] Younggyu Son Junghyun Lim Eunjo Cho Myunghee Lim Jeehyeong Khim (Korea Univ)

2P4-13 Ultrasonic Polymerization of N-isopropylacrylamide at Soluble and Insoluble Temperatures ###
Hirotaka Yanagida[1†] Erika Umeki[2] Tatsuhisa Takahashi[3] ([1]Yamagata Univ.;
[2] CANON CHEMICALS; [3]Asahikawa Medical College)

2P4-14 Synergistic effect of sonolysis combined with photocatalysis for the reaction of carbon chain elongation ###
Yukio Naruke[†] Mika Goto Hisashi Tanaka Hisashi Harada (Graduate School of Meisei Univ.)

2P4-15 Reduction of MnO_4^- and formation of MnO_2 nanoparticles in an ultrasonic field: the effects of organic additives ###
Kenji Okitsu† Masaki Iwatani Rokuro Nishimura (Osaka Pref. Univ.)

2P4-16 Effect of Ultrasounic Irradiation on Enzymatic Saccharification of Cellulose ###
Keiji Yasuda[1†] Daiki Kato[1] Makiko Sakka[2] Kazuo Sakka[2] ([1]Faculty of Engineering, Nagoya Univ.; [2]Faculty of Bioresources, Mie Univ.)

2P4-17* The application of sonication for purifying soil contaminated with microorganism ###
Takashi Nakamura[1†] Hirokazu Okawa[1] Youhei Kawamura[2] Katsuyasu Sugawara[1] ([1]Akita Univ.; [2]Univ. of Tsukuba)

2P4-18 Effect of ultrasound on phenol adsorption onto granular activated carbon ###
Jung hyun Lim[1†] Yong gyu Son[2] Eun ju Cho[3] Hyun jun Kim[4] Ming can Cui[5] Jee hyeong Khim[6] ([1]Korea Univ.; [2]Korea Univ.; [3]Korea Univ.; [4]Korea Univ.; [5]Korea Univ.; [6]Korea Univ.)

2P5-1* An orientation-controlled $KNbO_3$ thick film transducer for high resolution ultrasonic imaging ###
Mutsuo Ishikawa[1†] Hiro Einishi[1] Tomohito Hasegawa[1] Takeshi Morita[2] Yoshifumi Saijo[3] Minoru Kurosawa[1] Hiroshi Funakubo[1] ([1]Tokyo inst. Tech.; [2]The Univ. of Tokyo; [3]Tohoku Univ.)

2P5-2 Development of Sensing Capsule with Impedance Transforming Window for Puncture Needle-Type Ultrasonography ###
Masasumi Yoshizawa[1†] Takasuke Irie[2] Kouichi Itoh[3] Tadashi Moriya[4] ([1]Tokyo Metropolitan College of Industrial Technology; [2]Micorosonic Co., Ltd.; [3]Hitachi-Omiya Saiseikai Hospital; [4]Professor Emeritus of Tokyo Metropolitan Univ.)

2P5-3 Small Ultrasonic Linear-Array Probe to Support Endoscopic Surgery ###
Katsuhiko Tanaka[1†] Yuusuke Tanaka[1] Yoshimasa Kurumi[2] Tohru Tani[2] Yutaka Nishitani[3] Masaki Takahashi [3] Osamu Takahashi[4] ([1]Ritumeikan Univ.; [2]Shiga Univ. of Medical Science; [3]Krautkramer Japan; [4]Japan Probe)

2P5-4* Ultrasonic Circular Probe with Through Hole for Medical Applications ###
Yuusuke Tanaka[1†] Katsuhiko Tanaka[1] Susumu Sugiyama[1] Yoshimasa Kurumi[2] Tohru Tani[2] ([1]Ritsumeikan univ.; [2]Shiga Univ. Medical Sci.)

2P5-5 Development of Wide-Band Ultrasonic Transducer for Imaging of Inside Bone ###
Kouhei Koumoto[1†] Takasuke Irie[1,2] Masayuki Tanabe[1] Norio Tagawa[1] Kan Okubo[1] Kouichi Itoh[3] ([1]Tokyo Metropolitan Univ.; [2]Microsonic Co., Ltd.; [3]Hitachiomiya Saiseikai Hospital)

2P5-6 Fabrication of Hydrophone using Titanium Membrane Acoustic Receiving Surface and Hydrothermally Synthesized PZT Film for High Intensity Ultrasound ###
Kazuho Yoshimura[1†] Norimichi Kawashima[1] Takeyoshi Uchida[2] Tsuneo Kikuchi[2] Minoru Kurosawa[3] Shinichi Takeuchi[1] ([1]Toin Univ. of Yokohama; [2]NMIJ•AIST; [3]Tokyo Inst. of Tech)

2P5-7* Staircase Voltage MOSFET Driver Circuit for Therapeutic Ultrasound ###
Kosuke Moro† Shin Yoshizawa Shin-ichiro Umemura (Tohoku univ.)

2P5-8* Vibration Analysis of Therapeutic Ultrasound Transducer by FEM ###
Kenji Otsu† Shin Yoshizawa Shin-ichiro Umemura (Tohoku Univ.)

2P5-9* Ultrasound beam analysis affected by vibration mode on PZT single plate transducer ###
Takashi Azuma[1†] Shin-ichiro Umemura[2] ([1]Hitachi Ltd., Central Research Laboratory; [2]Tohoku Univ., School of Engineering)

2P5-10* High Order Two-Dimensional Delta-Sigma Modulator for Ultrasound Transduser Array ###
Tomoki Hatakeyama[1†] Yasutaka Tamura[1] Hirotaka Yanagida[1] tatsuhisa takahashi[2] ([1]Yamagata Univ.; [2]Asahikawa Medical College)

2P5-11* Multi-resonance transducer for ultrasonic imaging ###
Natsuki Yoshizumi[1†] Kentaro Nakamura[2] Shigemi Saito[3] Katsumi Ohira[4] Osamu Takahashi[4] Iwaki Akiyama[1] ([1]Shonan Institute of Technology; [2]Tokyo Institute of Technology; [3]Tokai Univ.; [4]Japan Probe)

2P5-12* A method of liver fibrosis estimation based on combination of Rayleigh distributions ###
Yu Igarashi[1†] Hiroshi Eduka[2] Tadashi Yamaguchi[2] Hiroyuki Hachiya[1] ([1]Tokyo Institute of Technology; [2]Chiba Univ.)

2P5-13* Effect of blood vessel viscoelasticity on the pulse waveform ###
Masashi Saito[1†] Yuya Yamamoto[1] Mami Matsukawa[1] Yoshiaki Watanabe[1] Mio Furuya[2] Takaaki Asada[2] ([1]Doshisha Univ.; [2]Murata Manufacturing Co., Ltd.)

2P5-14 Improvement of Elastogram by Insertion of Damper Layer ###
Takayuki Sato† Yasuaki Watanabe Shizuka Sato Hitoshi Sekimoto (Graduate School of Science and Engineering, Tokyo Metropolitan Univ.)

2P5-15 Tissue Characterization Using Optically Assisted Ultrasonic Velocity-Change Imaging Method ###
Hiromichi Horinaka† Satoshi Ishibashi Daisuke Sakurai Hajime Sano Tetsuya Matsuyama Kenji Wada Toshiyuki Matsunaka (Osaka Prefecture Univ.)

2P5-16 Evaluation for Tissue Boundary Imaging Based on Motion Vector ###
Masui Hironari[1†] Azuma Takashi[1] Sasaki Kazuaki[2] ([1]Hitachi; [2]Tokyo Univ. of A&T)

2P5-17 New echo imaging and displacement measurement using a new virtual source ###
Chikayoshi Sumi† Kunio Shimizu Norihiko Matsui (Dept Info & Commun, Faculty of Sci & Tech, Sophia Univ.)

2P5-18 Displacement measurement lateral modulation and beamforming with a steered angle ###
Chikayoshi Sumi† Kunio Shimizu Norihiko Matusi
(Dept Info & Commun Sci, Faculty of Sci & Tech, Sophia Univ.)

2P5-19 Preliminary Study on Microscale Tissue Characterization with in situ Inducible Microbubbles ###
Rei Asami[1†] Takashi Azuma[1] Teiichiro Ikeda[1] Shinichiro Umemura[2] Kenichi Kawabata[1]
([1]CRL,, Hitachi Ltd.; [2]Tohoku Univ.)

2P6-1 Experimental study of radiation impedance with the effect of reflected wave from sonar-dome ###
Jungsoon Kim[1†] Moojoon Kim[2] Kanglyeol Ha[2] Heeseon Seo[3] Cheeyeong Joh[3]
([1]Tongmyong Univ.; [2]Pukyong National Univ.; [3]Agency for Defense Development)

2P6-2 Wideband Tonpilz transducer with a void head mass ###
Saosometh Chhith† Yongrae Roh (Kyungpook National Univ.)

2P6-3 Measurement of Absorption Loss Coefficients for 80 kHz Band in the Sea Water at the Dpeth of 1,000 m. ###
Hiroshi Ochi[1†] Yoshitaka Watanabe[1] Takuya Shimura[1] Takehito Hattori[2] ([1]JAMSTEC; [2]NME)

2P6-4 Experimental verification of bit error rate in fading underwater acoustic communication channel ###
Jihyun Park[1] Jong Woo Bae[1] Joung-Soo Park[2†] Jong Rak Yoon[1]
([1]Pukyong Nat'l Univ.; [2]Agency for Defense Development)

2P6-5 Reducing intercarrier interference for OFDM systems ###
Chundan Lin[1] Jong Rak Yoon[2†] ([1]China Univ. of Petroleum, Beijing, China;
[2]Pukyong National Univ., Pusan, Korea)

2P6-6 Experiment of time-reversal communication at the range of 300 km ###
Takuya Shimura[1†] Hiroshi Ochi[1] Yoshitaka Watanabe[1] Takehito Hattori[2] ([1]JAMSTEC; [2]NME)

2P6-7* Inter Symbol Interference with Impulse Response and its Effect for Acoustic Communication ###
Tadashi Ebihara[1†] Keiichi Mizutani[2] Takeshi Ohbuchi[1] Naoto Wakatsuki[1] Koichi Mizutani[1]
([1]Univ. Tsukuba; [2]Tokyo Tech.)

2P6-8 Examination on Remote Control of CMOS sensor using ultrasonic communication in the shallow sea ###
Yoshikazu Koike[1] Hiroaki Arai[1†] Takahiro Yomoda[1] Takyoshi Sekiguchi[1] Harumasa Hojoh[2]
([1]Shibaura Insitute of Technology; [2]Tokyo Univ. of Marine Science and Technology)

11:55-13:10 Lunch

13:10-14:00 Invited Talk 2 **Chair: Ken-ya Hashimoto (Chiba University)**

2I-1 Clues From Digital Radio---applied to Biomolecular Recognition ###
William D. Hunt (Georgia Institute of Technology)

14:00-14:05 Break

14:05-15:05 Oral Session in English II **Chair: Hirotsugu Ogi (Osaka University)**

2E2-1 High temperature broadband ultrasonic transducers for structural health monitoring and non-destructive testing ###
Makiko Kobayashi† Cheng-Kuei Jen (IMI, NRCC)

2E2-2* Experimental study of thickness distribution imaging using laser source scanning ###
Nor Salim Muhammad† Hayashi Takahiro Murase Morimasa Ito Toshihiro Kamiya Shoji
(Nagoya Institute of Technology)

2E2-3 Dispersion Behaviors of Wedge Wave Propagating in Wedges with Hygroscopic Film in Various Moisture. ###
Po-Shien Tung† Che-Hua Yang Sheng-Wei Tang (National Taipri Univ. of Technolohy)

2E2-4 Analysis of guide wave which propagates along pipes filled with fluid ###
Harumichi Sato† (AIST)

15:05-15:10 Break

15:10-16:10 Oral Session in English III **Chair: Iwaki Akiyama (Shonan Institute of Techonology)**

2E5-1* Metastases Detection in Dissected Human Lymph Nodes Using Three-dimensional High-frequency Ultrasound ###
Jonathan Mamou[1†] Alain Coron[2,3] Masaki Hata[4] Junji Machi[4] Eugene Yanagihara[4] Pascal Laugier[2,3] Tadashi Yamaguchi[5] Ernest J. Feleppa[1] ([1]F. L. Lizzi Center for Biomedical Engineering, Riverside Research Institute, New York, NY; [2]UPMC Univ Paris 06, UMR 7623, LIP, Paris, F-75005 France; [3]CNRS, UMR7623 Laboratoire d'Imagerie Parametrique, Paris, F-75006 France; [4]Univ. of Hawaii and Kuakini Medical Center, Honolulu, HI; [5]CFME, Chiba Univ., Chiba, Japan)

2E5-2* Sonochemical and Biological Outcomes of Changing Acoustic Modulation and Their Implication in Therapeutic Ultrasound ###
Mariame A. Hassan[1,2†] Mikhail A. Buldakov[3] Ryohei Ogawa[1] Qing-Li Zhao[1] Yukihiro Furusawa[1] Takashi Kondo[1] ([1]Department of Radiology, Graduate School of Medicine and Pharmaceutical Sciences, Univ. Toyama, Japan; [2]Department of Pharmaceutics and Industrial Pharmacy, Facult. Pharmacy, Cairo Univ., Egypt.; [3]Cancer Research Institute of Tomsk Scientific Center, Russia)

2E6-1 Optimal Fish Target Strength for Detecting Fish School using Horizontal Echosounder ###
Muhammad Kurnia -[†] Kohji - Iida Tohru - Mukai (Graduate School of Fisheries Sciences, Hokkaido Univ.)

2E6-2 Measurements of underwater ambient noise generated by breaking waves in surf zone ###
Bong-Chae Kim[†] Byoung-Nam Kim Jooyoung Hahn Bok Kyoung Choi (Korea Ocean Research and Development Institute)

16:10-16:15 Break

16:15-17:15 Oral Session in English IV **Chair: Akira Harata (Kyushu University)**
Chair: Mitsudaka Hikita (Kogakuin University)

2E1-1* Liquid Jet Breakup by High Frequency Pressure Fluctuations ###
Atsushi Takeuchi[†] Keiji Sakai (Inst. Indust. Sci., Univ. of Tokyo)

2E1-2 Acoustic Microrheology: Shear Moduli of Soft Materials Determined from Single Bubble Oscillations ###
Anatoliy Strybulevych[1†] Valentin Leroy[2] John H. Page[1] Martin G. Scanlon[3] ([1]Dept. of Physics & Astronomy, Univ. of Manitoba; [2]Laboratoire Matire et Systmes Complexes, Universit Paris Diderot; [3]Dept. of Food Science, Univ. of Manitoba)

2E3-1 Analysis of Anisimkin's (Quasilongitudinal) Modes in Piezoelectric Plates ###
Morio Onoe[1†] Shigetaka Kaga[2] ([1]Professor Emeritus, Univ. of Tokyo; [2]Nihon Dempa Kogyo Co., Ltd.)

2E3-2 Dispersion of guided waves propagating in a piezoelectric solid and dielectric fluid bi-layer system ###
Chia-Han Wu[†] Che-Hua Yang (National Taipei Univ. of Technology)

17:15-17:35 Awards Celemony

17:35- Banquet

Friday, November 20

9:10-10:25 Medical Acoustics **Chair: Tsuyoshi Shiina (Kyoto University)**

3J5-1 Fast Ultrasonic Imaging of the Heart ###
Hideyuki Hasegawa[1,2†] Hiroshi Kanai[2,1] ([1]Graduate School of Biomedical Engineering, Tohoku Univ.; [2]Graduate School of Engineering, Tohoku Univ.)

3J5-2* Vibration Analysis of High Intensity Focused Ultrasound Source using Time Reversal: Effect of Lamb Waves ###
Yasuhiro Kaneshima[†] Shin Yoshizawa Shin-ichiro Umemura (Tohoku Univ.)

3J5-3* Evaluation of Liver Fibrosis Diagnosing Method by Scatterer Distribution Estimation ###
Hiroshi Ezuka[1†] Tadashi Yamaguchi[2] Yu Igarashi[3] Naohisa Kamiyama[4] Hiroyuki Hachiya[3]
([1]Graduate school of Advanced Integration Science, Chiba Univ.; [2]Resarch Center for Frontier Medical Engineering, Chiba Univ.; [3]Graduate School of Sci. and Eng., Tokyo Institute of Technology; [4]Toshiba Medical Systems Co.)

3J5-4 Evaluation of sonoporation using NIPA gel flow channel ###
Yoshiki Yamakoshi[†] Takashi Miwa Nobuyuki Yoshizawa Hiroki Inoguchi Yuji Takahashi Dongyu Zhang (Gunma Univ.)

3J5-5 Efficient cavitation induction with phase change nano droplet ###
Ken-ichi Kawabata[1†] Rei Asami[1] Takashi Azuma[1] Waleed Khalil[3] Kazuaki Sasaki[2] Shin-ichiro Umemura[4]
([1]Central Research Labarotatory, Hitachi,; [2]Tokyo Univ. of Aguriculture and Technology; [3]Suez Canal Univ.; [4]Tohoku Univ.)

10:25-10:45 Break

10:45-11:45 Physical Acoustics, Acousto -Optics Chair: Jun Morimoto (Natinal Defense Academy)

3J1-2* Elastic-Constant Measurement in thin films at low temperatures using pico-second laser ultrasound spectroscopy ###
Kenichi Tanigaki[†] Tatsuya Kusumoto Hirotsugu Ogi Nobutomo Nakamura Masahiko Hirao (Osaka Univ.)

3J1-3 Evaluation of 4H-SiC Single Crystals Using the Ultrasonic Microspectroscopy Technology ###
Jun-ichi Kushibiki[1] Yuji Ohashi[1†] Mototaka Arakawa[1] Yuusuke Kourai[1] Tomohisa Kato[2] Hajime Okumura[2]
([1]Tohoku Univ.; [2]AIST)

3J1-4* Time-resolved imaging of surface acoustic waves on two-dimensional phononic crystal waveguides ###
Keisuke Nanri[1†] Osamu Matsuda[1] Motonobu Tomoda[1] Oliver B. Wright[1] Dieter Profunser[1] Abdelkrim Khelif[2] Vincent Laude[2] Sarah Benchabane[2]
([1]Grad. Sch. Eng., Hokkaido Univ.; [2]FEMTO-ST, Besancon, France)

3J1-5 Measurement of in-plane electric properties in a wide band-gap semiconductor by Brillouin scattering ###
Takahiko Yanagitani[1†] Hiroyuki sano[2] Mami Matsukawa[2] ([1]NIT; [2]Doshisha Univ.)

11:45-13:10 Lunch

13:10-14:00 Invited Talk 3 Chair: Keiji Sakai (University of Tokyo)

3I-1 Gigahertz Acoustic Spectroscopy by Micro-Brillouin Scattering ###
Seiji Kojima (PAS, Univ. Tsukuba)

14:00-16:00 Poster Session Chair: Yasuaki Watanabe (Tokyo Metropolitan University)

3P1-1 Ultrasonic Light diffraction in liquid crystal in isotropic phase ###
Tatsuro Matsuoka[†] Junki Miyashita Shinobu Koda (Nagoya Univ.)

3P1-2* Perfectly Matched Layers in the Cylindrical and Spherical Coordinates for Elastic Waves in Solids ###
Takao Shimada[†] Koji Hasegawa (Muroran Institute of Tech.)

3P1-3 Ultrasoinc Atenuation of a High Damping Alloy with Electromagnetic Acoustic Resonance ###
Toshihiro OHTANI[1†] Fuxing YIN[2] ([1]Shonan Institute of Technology; [2]National Institute for Materials Science)

3P1-4 Analysis of Nanomechanical Antenna Structure Resonator Using Transfer Matrix Method and Examination of Its Frequency Gap ###
Hideaki Itoh[†] Hiroshi Tatebe (Shinshu Univ.)

3P1-5 Recognition of Optical Layered BPSK Labels Using Acoustooptic Processor for Hierarchical Photonic Routing ###
Nobuo Goto[1†] Yasumitsu Miyazaki[2] ([1]The Univ. of Tokushima; [2]Aichi Univ. of Tech.)

3P1-6* High Temperature Brillouin Scattering of Potassium Borate Glasses ###
Mitsuru Kawashima[†] Yu Matsuda Syunsuke Aramomi Seiji Kojima (Univ. Tsukuba, PAS.)

3P1-7* Characterizations of C_{60} film by measuring internal friction ###
Syota Shimizu[1†] Takeru Miyamoto[1] Kenta Kirimoto[2] Yong Sun[1] ([1]Kyushu Institute of Technology ; [2]Kitakyushu National College of Technology)

3P1-8 Elastic Properties of Lithium Germanate Glasses Studied by Brillouin Scattering ###
Kazuhiro Kaneda† Yu Matsuda Seiji Kojima (Tsukuba Univ.)

3P1-9* Brillouin Scattering of Lysozyme Crystals in Aqueous Lower Alcohol Solutions ###
Hitoshi Kanazawa† Takahiro Ishii Seiji Kojima (Tsukuba Univ.)

3P1-10* Numerical Simulation of Ultrasound Propagation in Inhomogeneous Medium Including Randomly Moving Scatters ###
Hideyuki Nomura† Tomoo Kamakura (Univ. of Electro-Communications)

3P1-11 Distributed-Parameter Based Treatment of Interaction Process between Elastic and Dielectric Energy in Piezoelectric Transducer: Part II ###
Michio Ohki† (Natl. Def. Acad.)

3P1-12* Characterization of broadband dispersion behaviors of wedge waves with different boundary conditions by laser ultrasound technique ###
Che Hua Yang[1] Wen Chih Wang[2†] ([1]National Taipei Univ. of Technology (NTUT); [2]National Taipei Univ. of Technology (NTUT))

3P1-13* Equivalent Circuit Model of Electric Contact Phenomena with Elastic and Plastic Deformation ###
Takayuki Kudo† Noboru Wakatsuki Takatsu Nobuo (Ishinomaki Senshu Univ)

3P1-14 Plate Waves in Locally Resonant Sonic Materials ###
Jin-Chen Hsu[1†] Tsung-Tsong Wu[2] ([1]Department of Mechanical Engineering, National Yunlin Univ. of Science & Technology, Yunlin 640, Taiwan; [2]Institute of Applied Mechanics, National Taiwan Univ., Taipei 106, Taiwan)

3P1-15 Rheology Measurement of protein solution by EMS system ###
Maiko Hosoda[1†] Nami Kurauchi[2] Miki Nakamura[2] Hiroyasu Nomura[1] Keiji Sakai[3]
([1]School of Science and Engineering, Tokyo Denki Univ.; [2]Kyoto Electronics Manufacturing Co, Ltd.; [3]Institute of Industrial Science, Univ. of Tokyo)

3P1-16* SAW Propagation Characteristics of Buried Type Optical-waveguides on $LiNbO_3$ Substrates ###
Kei Kasahara[1†] Takehiko Uno[1] Satoru Noge[2] ([1]Kanagawa Inst. of Tech. ; [2]Numazu National College of Technology)

3P1-17* Nanoscale mechanical contacts probed with picosecond acoustic phonons and ultrafast electron diffusion ###
Yohei Iwasaki† Thomas Dehoux Oliver Bernard Wright Osamu Matsuda Motonobu Tomoda (Hokkaido Univ.)

3P1-18 Time-resolved imaging of confined Rayleigh and Lamb waves in micrometer size cavities and wedges ###
Motonobu Tomoda† Shinnosuke Matsueda Oliver B. Wright Osamu Matsuda Yoshiaki Nishijima Kosei Ueno Saulius Juodkazis Hiroaki Misawa (Hokkaido Univ.)

3P1-19* Observation of microsecond wetting by microdroplets ###
Tatsuya Yamada† (Inst. Indust. Sci., Univ. of Tokyo)

3P1-20* Observation of Bragg and hybridization gaps in 2D phononic crystals ###
Eric J.S. Lee† John H. Page (Univ. of Manitoba)

3P1-21 Read out of Spectrum in Hole-Burning on Piezoelectric Resonators ###
Fujio Tsuruoka† (Department of Physics, Kurume Univ.)

3P1-22* Optical Visualization of Focused Ultrasound using Negative Refraction in Phononic Crystal ###
Kojiro Nishimiya[1†] Koichi Mizutani[1] Naoto Wakatsuki[1] Ken Yamamoto[2] ([1]Univ. Tsukuba; [2]Kansai Univ.)

3P1-23* Measurement of wave velocity distribution in a trabecula by micro-Brillouin scattering ###
Masahiko KAWABE[1†] Mami MATSUKAWA[1] Norikazu OHTORI[2] ([1]Doshisha Univ.; [2]Niigata Univ.)

3P1-24 Time-resolved imaging of surface acousitc waves on GaAs ###
Shogo Kaneko† osamu Matsuda Motonobu Tomoda Oliver B. Wright (Grad. Sch. Eng., Hokkaido Univ.)

3P1-25* Vibrational modes in wire-type phononic crystals with square- and circular- cross sections ###
Yushi Nakamura† Seiji Mizuno (Hokkaido Univ.)

3P1-26* Fabrication and Evaluation of Highly Oriented Ta_2O_5 Piezoelectric Thin Films Prepared by RF-Magnetron Sputtering ###
Takeshi Mitsui† Akinori Tsuchiya Shoji Kakio Yasuhiko Nakagawa (Univ. Yamanashi)

3P1-27 Cementation effect evaluation by ultrasonic waves in granular materials ###
Yong-Hun Eom[1†] Hung Q. Truong[2] Yong-Hoon Byun[2] Soon-Hyuck Jung[2] Jong-Sub Lee[2]
([1]Dept. of Tunnel Engineering, Dongmyeong Engineering; [2]School of Civil, Environmental and ArchitecturalEngineering, Korea Univ.)

3P3-1* SHF band Filters Configured with Air-Gap Type Thin Film Bulk Acoustic Resonators ###
Motoaki Hara† Tsuyoshi Yokoyama Takeshi Sakashita Shinji Taniguchi Masafumi Iwaki Tokihiro Nishihara Masanori Ueda Yoshio Satoh (FUJITSU LIMITED)

3P3-2 Crystallographic characteristics of (11-20) textured ZnO piezoelectric films fabricated by magnetron sputtering with linear erosion ###
Takayuki Kawamoto[1,3†] Takahiko Yanagitani[2] Mami Matsukawa[1] Yoshiaki Watanabe[1] Yoshikazu Mori[3] Syo Sasaki[3] Masatoshi Oba[3] ([1]Doshisha Univ.; [2]Nagoya Inst. Tech.; [3]OMRON)

3P3-3* Piezoelectric properties of c-axis highly tilted AlN films ###
Masashi Suzuki† Takahiko Yanagitani (NIT)

3P3-4 High efficient optical mode converter using Lamb wave ###
Koki Saito† Yasuhiko Nakagawa Shoji Kakio
(Interdisciplinary Graduate School of Med.Eng.,Univ. of Yamanashi)

3P3-5 Simple Simultaneous Modulation for Red, Green and Blue Laser Lights Using Surface-Acoustic-Wave-Driven Acoustooptic Modulator ###
Shoji Kakio Susumu Shinkai† Yasuhiko Nakagawa (Univ. Yamanashi)

3P3-6 Analysis of SAW Resonator on SiO_2/Al/$LiNbO_3$ structure by using FEM/SDA ###
Hiroyuki Nakamura[1†] Hidekazu Nakanishi[1] Rei Goto[1] Ken-ya Hashimoto[2] Masatsune Yamaguchi[2]
([1]Panasonic Electronic Devices; [2]Chiba Univ.)

3P3-7* Development of High Coupling Coefficient SAW Resonator on Ta_2O_5/Al/$LiNbO_3$ Structure ###
Hidekazu Nakanishi† Hiroyuki Nakamura Rei Goto (Panasonic Electronic Devices)

3P3-8 Acoustic Wave Devices composed of Periodical Poled Z-cut $LiTaO_3$ Plate ###
Michio Kadota[1] Takashi Ogami[1†] Kansho Yamamoto[1] Yasuo Cho[2]
([1]Murata Mfg. Co., Ltd.; [2]Research Institute of Electrical Communication, Tohoku Univ.)

3P3-9 Electromechanical Coupling Coefficient of Lamb Waves in Multilayered Piezoelectric Plates with Distinct Electrode Arrangements ###
Yung-Yu Chen† (Tatung Univ.)

3P3-10 Ultra Wide Band Resonator Composed of Grooved Cu-Electrode and its Application ###
Michio Kadota† Tetsuya Kimura Yasuyuki Ida (Murata Mfg. Co., Ltd.)

3P3-11* Theoretical Analysis of Leaky SAW Properties on Reverse-Proton-Exchanged Substrate ###
Hidenori Shimizu† Shoji Kakio Yasuhiko Nakagawa (Univ. Yamanashi)

3P3-12 Thickness Effect of Gold Film on Dynamics of Second Harmonic in Nonlinear Surface Acoustic Wave ###
Koji Aizawa[1†] Yukihiro Ishimaru[1] Akiyuki Minamide[2] Yoshiaki Tokunaga[1]
([1]Graduate School, Kanazawa Inst. of Tech.; [2]Kanazawa Tech. College)

3P3-13* Multilayer shear mode resonator consisting of c-axis tilted ZnO films. ###
Noki Morisato[1†] Shinji Takayanagi[2] Takahiko Yanagitani[3] Mami Matsukawa[2] Yoshiaki Watanabe[1]
([1]Life & Medi. Sci., Doshisha Univ.; [2]Facul. Eng, Doshisha Univ.; [3]Facul. Eng, Nitech Univ.)

3P3-14 Equivalent circuit analysis of efficiency improvement in multilayered polyurea ultrasonic transducers ###
Takahiro Aoyagi[1†] Daisuke Koyama[1] Kentaro Nakamura[1] Marie Tabaru[2] ([1]Tokyo Tech; [2]CRL, Hitachi Ltd.)

3P3-15 Optimal design of an ultrasonic planar array transducer ###
Wonseok Lee Yongrae Roh† (Kyungpook National Univ.)

3P3-16 Analysis of the backlashes in an ultrasonic transducer for volumetric imaging ###
Eunhee Shin† Yongrae Roh (Kyungpook National Univ.)

3P3-17* Development of 170-MHz Wireless-Electrodeless Quartz Crystal Microbalance Biosensor ###
Hironao Nagai[1†] Yuji Fukunishi[1] Hirotsugu Ogi[1,2] Masahiko Hirao[1] Masayoshi Nishiyama[3]
([1]Graduate School of Engineering Science, Osaka Univ.; [2]Life Phenomena and Measurement Analysis, JST PRESTO; [3]Renovation Center of Instruments for Science Education and Technology, Osaka Univ.)

3P3-18* High Temperature Sensor Using β-Phase Quartz ###
Hiroyuki Tashiro[1†] Takehiko Uno[1] Satoru Noge[2] ([1]Kanagawa Institute of Technology; [2]Numazu National College of Technology)

3P3-19* Systematic research on the dependence of the aggregation behavior of Aβ peptides on the amyloid nuclei using multichannel wireless-electrodeless QCM ###
Yuji Fukunishi[1†] Hironao Nagai[1] Hirotugu Ogi[1,2] Masahiko Hirao[1] Masayoshi Nishiyama[3]
([1]Graduate School of Engineering Science, Osaka Univ.; [2]Life Phenomena and Measurement Analysis, JST PRESTO; [3]Renovation Center of Instruments for Science Education and Technology, Osaka Univ.)

3P3-20 Study of a Crystal Sensor with Two Pairs of Electrodes ###
Shigenori Watanabe† Shunichi Wakamatsu Mitsuaki Koyama (Nihon Dempa Kogyo Co., Ltd.)

3P3-21 Wideband speaker using exponentially tapered piezoelectric bimorph actuators ###
Huiuk Lee[1†] Jungsoon Kim[2] Moojoon Kim[1] Kanglyeol Ha[1] ([1]Pukyong National Univ.; [2]Tongmyong Univ.)

3P3-22 A Study of Vibratory Tactile Sensor Using a Horn Type Longitudinal Bar Resonator ###
subaru kudo† (Ishinomaki Senshu Univ.)

3P3-23 Experimental Study of Frequency-Change-Type Acceleration Sensor ###
Sumio Sugawara Yu Kajiwara† (Ishinomaki Senshu Univ.)

3P3-24 Development of power generation in piezoelectric energy harvesting with array configurations ###
Daisuke Koyama† Kentaro Nakamura (Precision and Intelligence Laboratory, Tokyo Tech.)

3P5-1* Measurement of Elastic Properties of Tissues with Shear Wave Propagation by the Acoustic Radiation Force (I) ###
Marie Tabaru† Takashi Azuma Kunio Hashiba (Central Research Laboratory, Hitachi, Ltd.)

3P5-2* Ultrasonic Fields Designed for Effective Actuation of Soft Tissue Using Line Focus Array Transducers. ###
Tomotaka Sawada[1†] Hideyuki Hasegawa[1,2] Hiroshi Kanai[2,1] ([1]Department of Biomedical Engineering, Graduate School of Biomedical Engineering, Tohoku Univ.; [2]Department of Electronic Engineering, Graduate School of Engineering, Tohoku Univ.)

3P5-3 Production of local acoustic radiation force to constrain microcapsules from diffusing in vivo ###
Kohji Masuda[1†] Nobuyuki Watarai[1] Ren Koda[2] Ryusuke Nakamoto[1] Yusuke Muramatsu[1] ([1]Tokyo Univ. of A&T; [2]Chiba Univ.)

3P5-4* Pulse Compression Imaging Based on Split-and-Merge Strategy ###
TAKUYA YAMAMURA[1†] MASAYUKI TANABE[2] Kan Okubo[2] Norio Tagawa[2] ([1]Faculty of System Design, Tokyo Metopolitan Univ.; [2]Graduate School of System Design, Tokyo Metropolitan Univ.)

3P5-5* Synthetic Aperture Ultrasound Imaging using Coded-excitation and Harmonics Signal ###
Masato Hiyoshi[1†] Hirotaka Yanagida[1] Yasutaka Tamura[1] Tatsuhisa Takahashi[2] ([1]Yamagata Univ.; [2]Asahikawa Medical College)

3P5-6 Precise Vascular Visualization in Power Doppler Imaging with Motion Compensation ###
Hideki Yoshikawa[1†] Takashi Azuma[1] Kazuaki Sasaki[2] ([1]Hitachi, Ltd., Central Research Laboratoty; [2]Tokyo Univ. of Agriculture and Technology)

3P5-7* Ultrasound Imaging Using Super Resolution FM-Chirp Correlation Method ###
Masaki Fujiwara[†] Kan Okubo Norio Tagawa (Graduate School of System Design, Tokyo Metropolitan Univ.)

3P5-8* Experimental Study of Small Calculus Detection for Medical Acoustic Imaging Using Correlation between Echo Signals ###
Hirofumi Taki[1†] Takuya Sakamoto[1] Makoto Yamakawa[2] Tsuyoshi Shiina[3] Toru Sato[1] ([1]Graduate School of Informatics, Kyoto Univ.; [2]Advanced Biomedical Engineering Research Unit, Kyoto Univ.; [3]Graduate School of Medicine, Kyoto Univ.)

3P5-9 Optical scattering measurement of microbubble cloud dynamics in ultrasound ###
Takashi Miwa[†] Yoshiki Yamakoshi Tomoharu Mashiyama (Gunma Univ.)

3P5-10 Study on life time of microbubble generated from phase change nano droplet ###
Ken-ichi Kawabata[1†] Rei Asami[1] Takashi Azuma[1] Shin-ichiro Umemura[2] ([1]Central Reseach Lab., Hitachi.,; [2]Tohoku Univ.)

3P5-12* Evaluation of trapping performance of fluid microcapsules to the parameter variation in acoustic radiation ###
Ryusuke Nakamoto[1†] Hayato Yamauchi[1] Yusuke Muramatsu[1] Kohji Masuda[1] Yoshitaka Miyamoto[2] Toshio Chiba[3] ([1]Graduate School of BASE, Tokyo Univ. of Agriculture and Technology; [2]School of Medicine, Nagoya Univ.; [3]Department of Clinical Research Development, National Center for Child Health and Development)

3P5-13* Blood flow measurement by Counter-Crossed Beam Contrast Echo method ###
Taishi Eura[1†] Kenji Yoshida[2] Yoshiaki Watanabe[2] Iwaki Akiyama[3] ([1] Faculty of Engineering, Doshisha Univ.; [2]Faculty of Life and Medical Sciences, Doshisha Univ.; [3]Shonan Institute of Technology, Department of Electric and Electronic Engineering)

3P5-14* Influences of low frequency ultrasound to cells cultured on gel:Mechanical effects of bubble vibrations ###
Kazuya Obata[1†] Kenji Yoshida[1] Akira Tsukamoto[2] Takashi Ushida[2] Yoshiaki Watanabe[1] ([1]Facility of Life and Medical Science, Doshisha Univ; [2]Center for Disease Biology and Integrative Medicine, Faculty of Medicine, The Univ. of Tokyo)

3P5-15 Fundamental Study on Activation Mechanism of Titanium Dioxide Composite Irradiated by Low-Intensity Focused Ultrasound ###
Naotaka Nitta[1†] Akio Kaya[1] Takashi Yamane[1] Masahiro Okada[2] Tsutomu Furuzono[2] ([1]AIST; [2]NCVC)

3P5-16* Numerical Examination of Bio Heating Using Transducer Array ###
Koichi Morikawa[1†] Uiri Hamanaka[1] Naoto Wakatsuki[1] Koichi Mizutani[1] Yoshihiro Ohmi[2] ([1]Univ. Tsukuba; [2]Ohmi Clinic)

3P5-17* Enhancement of Localized Heating by Ultrasonically Induced Cavitation for High Intensity Focused Ultrasound Therapy ###
Ryo Takagi[†] (Tohoku Univ.)

3P5-18* A Large Region of Coagulation with Multi-Cavitation for HIFU Therapy ###
Yuta Inaba[†] Shin Yoshizawa Shin-ichiro Umemura (Tohoku Univ)

3P5-19* Verification of cavitations and thermal effects of Ultrasonically activated scalpel ###
Masaru Oya[1†] Tadashi Yamaguchi[2] Hideki Hayashi[2] Hiroyuki Hachiya[3] ([1]Graduate school of Advanced Integration Science, Chiba Univ.; [2]Resarch Center for Frontier Medical Engineering, Chiba Univ.; [3]Graduate School of Science and Engineering, Tokyo Institute of Technology.)

3P5-20* Acoustic Impedance Evaluation of Thermally-induced Lesion in Biological Tissue using Ultrasonic Microscopy ###
Takashi Shishitani[†] Shin Yoshizawa Shin-ichiro Umemura (Tohoku Univ.)

3P5-21* Transdermal delivery of hydrophilic dye by low-frequency ultrasound:relationship between cavitaion and introduction effect ###

Kenji Yoshida[1†] Kazuya Obata[1] Akira Tsukamoto[2] Takashi Ushida[2] Yoshiaki Watanabe[1]
([1]Faculty of Life and Medical Sciences, Doshisha Univ.; [2]Center for Disease Biology and Integrative Medicine, Faculty of Medicine, The Univ. of Tokyo)

3P5-22 Tissue Equvalent Materilas and their Applications to Phantoms ###

Tomoji Yoshida[1†] Toshio Kondo[1] Kazuhiro Yasukawa[2] Kaoru Tsuta[2] Yasuo Shikinami[2]
([1]Tokushima Bunri Univ.; [2]Takiron Co., Ltd.)

3P5-23* Myocardial Strain Imaging System with a High-Performance Adaptive Dynamic Grid Interpolation Method ###

Shuhui Bu[1†] Makoto Yamakawa[2] Tsuyoshi Shiina[1] ([1]Human Health Science, Graduate School of Medicine, Kyoto Univ.; [2]Advanced Biomedical Engineering Research Unit, Kyoto Univ.)

3P5-24* Physical Considerations on Bernoulli's Law for Mitral Valve Regurgitation ###

Tomohiko Tanaka[†] (Central Research Lab., Hitachi Ltd.)

3P5-25* Simple analysis of a pulse wave to estimate the viscoelastic properties of blood vessel wall - Effect of age on the averaged blood flow velocity - ###

Masashi Saito[1†] Yuya Yamamoto[1] Mami Matsukawa[1] Yoshiaki Watanabe[1] Mio Furuya[2] Takaaki Asada[2]
([1]Doshisha Univ.; [2]Murata Manufacturing Co., Ltd.)

3P5-26* Measurement of Two-dimensional Heart Wall Motion for Evaluation of Myocardial Contraction and Relaxation at High Temporal and Spatial Resolution ###

Yasunori Honjo[1†] Hideyuki Hasegawa[1,2] Hiroshi Kanai[2,1] ([1]Department of Biomedical Electronic Engineering, Graduate School, Tohoku Univ.; [2]Department of Electronic Engineering, Graduate School, Tohoku Univ.)

3P5-27* Transient Change in Viscoelasticity of Radial Artery due to Flow-Mediated Dilation Measured by Accurate Detection of Arterial Wall Boundaries ###

Kazuki Ikeshita[1†] Hideyuki Hasegawa[1,2] Hiroshi Kanai[2,1] ([1]Department of Biomedical Engineering, Graduate School of Biomedical Engineering, Tohoku Univ.; [2]Department of Electronic Engineering, Graduate School of Engineering, Tohoku Univ.)

3P5-28 Measurement of the lateral distribution of ultrasonic fields transmitted through bovine bones by the hydrophone scanning method ###

Masahiro Ohno[†] Nami Ikeda Kaori Ohira Yukari Ogawa (Chiba Institute of Technology)

3P5-29* Longitudinal wave properties in swine cortical bone. ###

Takaaki Koizumi[1†] Kazufumi Yamamoto[2] Tomohiro Nakatsuji[1]
Keisuke Yamashita[1] Mami Matsukawa[1] ([1]Doshisha Univ.; [2]Hamamatsu Univ. Sch. Med.)

3P5-30 Determination of bovine bone anisotropic stiffness using ultrasonic data in two orthogonal planes ###

Quentin Grimal[1,2†] Kazufumi Yamamoto[3] Tomohiro Nakatsuji[3] Mami Matsukawa[3] Pascal Laugier[1,2]
([1]UPMC Univ Paris 06, UMR 7623, LIP, F-75005, Paris, France; [2]CNRS, UMR 7623, Laboratoire d'Imagerie Paramtrique, F-75005, Paris, France; [3]Laboratory of Ultrasonic Electronic Doshisha Univ., Kyoto, Japan)

3P5-31* The effect of three dimensional trabecular frame structure on the fast wave velocity in bovine cancellus bone ###

Hiroki Somiya[1†] Katsunori Mizuno[1] Tomohiro Kubo[1] Mami Matsukawa[1] Takahiko Otani[1] Yoshiki Nagatani[2]
([1]Doshisha Univ.; [2]Kobe City Coll.Tech.)

3P5-32* Wavelet transform analysis of ultrasonic wave propagation in cancellous bone ###

Sho Hasegawa[1†] Yoshiki Nagatani[1] Mizuno Katsunori[2] Mami Matsukawa[2]
([1]Kobe City College of Technology; [2]Doshisha Univ.)

3P5-33 Ultrasound Propagation Paths in Cancellous Bone with an Oblique Trabecular Orientation ###

Atsushi Hosokawa[†] (Akashi Nat. Coll. Tech.)

3P5-34 Study for Imaging of Inside Bone using Ultrasonic Frequency Characteristics ###

Takasuke Irie[1,2†] Kouhei Koumoto[1] Masayuki Tanabe[1] Norio Tagawa[1] Kan Okubo[1] Kouichi Itoh[3]
([1]Tokyo Metropolitan Univ.; [2] Microsonic Co., Ltd.; [3]Hitachi-Omiya Saiseikai Hospital)

3P5-35 900-MHz acoustic microscopy : nanostructural characteristics of cortical bone determines elasticity at the micron scale ###

Mathilde Mouchet[1,5] Aurelien Gourrier[2,4,5] Fabienne Rupin[1,5] Kay Raum[3] Francoise Peyrin[4,5,6]
Amena Saied[1,5] Pascal Laugier[1,5†] ([1]Univ. Pierre et Marie Curie, Paris, France; [2]Univ. Paris-Sud, France; [3]Universitatsmedizin Berlin, Germany; [4]ESRF, Grenoble, France; [5]CNRS; [6]INSERM)

3P5-36 Perception mechanisms of bone-conducted ultrasound assessed by acoustic characteristics in the external auditory meatus. ###

Kazuhito Ito[†] Seiji Nakagawa (AIST)

16:00-17:15 Piezoelectric Devices **Chair: Masao Takeuchi (Tamagawa University)**

3J3-1 Liquid-Phase Shear Horizontal Surface Acoustic Wave Immunosensor ###
Takashi Kogai[†] Naoyuki Yoshimura Toshimasa Mori Hiromi Yatsuda (Japan Radio Co.,Ltd.)

3J3-2 Improvement of Ball Surface Acoustic Wave Device with Orientation and Thickness Optimization of Interdigital Electrode. ###
Takayuki Yanagisawa[1,2,3†] Tsuneo Ohgi[1,3] Shingo Akao[1,2,3] Noritaka Nakaso[1,2,3] Yoshikazu Ohara[2,3]
Kazushi Yamanaka[2,3] ([1]TOPPAN PRINTING; [2]Tohoku Univ.; [3]JST,CREST)

3J3-3* Piezoelectric Boundary Acoustic Wave in Cu Electrode/Rotated YX-$LiNbO_3$ Substrate Structure with Partially Covered SiO_2 Layer ###
Yiliu Wang[†] Ken-ya Hashimoto Tatsuya Omori Masatsune Yamaguchi
(Graduate School of Engineering, Chiba Univ.)

3J3-4* The improvement of temperature characteristics for highly coupled ZnO/Quartz structure ###
Takaki Murata[1,2†] Michio Kadota[1] Kenji Matsuda[1] Kenya Hashimoto[2] ([1]Murata Mfg. Co., Ltd.; [2]Chiba Univ.)

3J3-5 Nonlinear Distortion of Acoustic Devices for Radio-Frequency Front-End Applications and Suppression of Nonlinearity ###
Masanori Ueda[1†] Masafumi Iwaki[1] Tokihiro Nishihara[1] Yoshio Satoh[1] Ken-ya Hashimoto[2]
([1]FUJITSU LABORATORIES LTD; [2]Graduate School of Engineering, Chiba Univ.)

17:15 Closing Session