

Program of AOSS-6/JSS-34

December 3, 2025 (Wednesday)

15:00 – 16:30	Tour (Shimadzu Tokyo Innovation Plaza)
17:00 – 18:30	Welcome Party

December 4, 2025 (Thursday)

9:00 – 9:30	Opening Remark
9:30 – 10:45	Oral Session I (Chair : K. Yasui and M. Ashokkumar)
9:30 – 10:00	Plenary Lecture 1 Muthupandian Ashokkumar (University of Melbourne) “Sonochemistry and Sonoprocessing: Limitations & Opportunities for real world applications”
10:00 – 10:15	Invited Talk 1 Susumu Nii (Kagoshima University) “MHz Ultrasound-Driven Process Intensification in Chemical Engineering”
10:15 – 10:30	Oral Talk 1 Tony Chave ¹ , William’s Nzodom ¹ , Sabine Valange ² , Sergey I. Nikitenko ¹ (¹ Univ Montpellier, ² Université de Poitiers) “Coupling ultrasonic irradiation and hydrothermal conditions for the synthesis of zeolites”
10:30 – 10:45	Oral Talk 2 Rachel Pflieger, Micheál P. Moloney (Institut de Chimie Séparative de Marcoule) “The sonochemical/sonoluminescent effects of repositioning the gas feed tube”
10:45 – 11:00	Break

11:00 – 12:00	Oral Session II (Chair : K. Yasuda and J. – J. Zhu)
11:00 – 11:15	Invited Talk 2 Claudia L. Bianchi ¹ , Vincenzo Fabbri ¹ , Melissa G. Galloni ¹ , Fabio Gosetti ² , Ermelinda Falletta ¹ (¹ Università degli Studi di Milano, ² University of Milano-Bicocca) “Engineering and Empowering Photocatalysts with Ultrasound: A Dual Strategy for Environmental and Energy Challenges”
11:15 – 11:30	Invited Talk 3 Jun-Jie Zhu (Nanjing University) “Ultrasound-induced Electrochemiluminescence”
11:30 – 11:45	Oral Talk 3 Linda Weavers, Kaiden Murphy, Mark Tischer, Shengxi Gui, Rongjun Qin (The Ohio State University) “Field and Remote Sensing Assessment of Ultrasound Treatment on Algal Abundance in Freshwater Reservoirs”
11:45 – 12:00	Oral Talk 4 Cheng Ma (Yangzhou University) “In Situ Ultrasound Irradiation for Regulating Electrochemiluminescence Intensity and Layer Thickness”
12:00 – 13:45	Lunch
13:45 – 14:45	Oral Session III (Chair : H. Okawa and M. Sivakumar)
13:45 – 14:00	Invited Talk 4 Joydip Mondal, Shen Long, Jie Wu (CSIRO Mineral Resource) “Application of ultrasound for scale prevention in the mineral processing industry”
14:00 – 14:15	Oral Talk 5* Žan Boček, Tilen Kopač, Aleš Ručigaj, Matevž Dular (University of Ljubljana) “Real-time observation of cellulose dispersion sonication and hydrogel network formation”
14:15 – 14:30	Oral Talk 6* Jitendra Carpenter (Manipal Institute of Technology) “Ultrasonic emulsification: Mechanistic Insights, Stability Factors, and Applications”
14:30 – 14:45	Oral Talk 7* Bingze Du, Xinyue Gong, Xiasheng Guo, Dong Zhang, Juan Tu (Nanjing

University)

“Real-Time Multiplexed Passive Cavitation Mapping and B-Mode Imaging on Modified Diagnostic Ultrasound Platform”

14:45 – 15:00	Break
15:00 – 15:45	Oral Session IV (Chair : Y. Hayashi and X. Wu)
15:00 – 15:15	Invited Talk 5 Xiaoge Wu ^{1,2} , Juanjuan Wang ^{1,2} (¹ Yangzhou University, ² Ministry of Agriculture and Rural Affairs) “Algae removal through the synergy of ultrasound and functional nanomaterials”
15:15 – 15:30	Invited Talk 6 Yue Wu ¹ , Yang Tao ¹ , Joydip Mondal ² , Muthupandian Ashokkumar ³ (¹ Nanjing Agricultural University, ² CSIRO Mineral Resources, ³ The University of Melbourne) “Ultrasound-Induced Inactivation of Trypsin Inhibitors for Improving Their Functionality”
15:30 – 15:45	Oral Talk 8* Aerfate Abulikemu, Kenji Okitsu (Osaka Metropolitan University) “Sonochemical degradation of CCl ₄ in alcohol-water system”
15:45 – 16:00	Group Photo
16:00 – 18:00	Poster Session Odd No. : 16:00 – 17:00 Even No. : 17:00 – 18:00
18:30 – 20:30	Banquet (Kawasaki Rei Hotel)

December 5, 2025 (Friday)

The morning oral sessions will be held in two separate venues.

- 9:00 – 10:15 Oral Session V (Chair : S. Nii and T. J. Tiong) : Main Hall A
- 9:00 – 9:15 Oral Talk 9
Timm Joyce Tiong¹, Mitchell Shyan Wei Lim¹, Siew Wen Ching¹, Yeow Hong Yap² (¹University of Nottingham Malaysia, ²Universiti Tunku Abdul Rahman)
“Ultrasound-Assisted Co-Precipitation vs Aging: A Study on Ni–SiO₂ Catalysts”
- 9:15 – 9:30 Oral Talk 10
Takuya, Yamamoto¹, Shinya, Okino² (¹Osaka Metropolitan University, ²Tokyo Denki University)
“Development of an evaluation method to determine the influence of macroscopic mass transfer on apparent sonochemical reaction rate”
- 9:30 – 9:45 Oral Talk 11
Julien Margate¹, Alexandre Pylliser¹, Thomas Dumas², Nicolas Clavier¹, Stéphanie Szenknect¹, Sergey I. Nikitenko¹, Matthieu Viro¹ (¹ICSM, Univ Montpellier, ²CEA, DES, ISEC, DMRC, Univ Montpellier)
“Acoustic Cavitation-Driven H₂O₂ Generation as a Tool to Probe Oxidative Alteration of Uranium-based (U_xTh_{1-x})O₂ Oxides”
- 9:45 – 10:00 Oral Talk 12
Gopal Vijayalakshmi Jayachandran, Thirugnanasambandam Sivasankar (National Institute of Technology, Tiruchirappalli)
“Recovery of heavy oil from contaminated soil and separation of asphaltene using ultrasound assisted process”
- 10:00 – 10:15 Oral Talk 13
Mícheál, P, Moloney, Rachel, Pflieger (Institut de Chimie Séparative de Marcoule)
“From Sound to Light; a Nano Approach.”
- 10:15 – 10:30 Coffee Break
- 10:30 – 11:30 Oral Session VI (Chair : N. Enomoto and S. Anandan) : Main Hall A
- 10:30 – 10:45 Invited Talk 7
Ben Nanzai¹, Yusuke Masuda¹, Kazuya Hikida¹, Kazuhiro Yagishita² (¹Shizuoka Institute of Science and Technology, ²ENEOS Corporation)
“Ultrasonic cavitation in organic solvents and its interfacial region”

- 10:45 – 11:00 Invited Talk 8
Nandha Kumar Sundarraj, Sambandam Anandan (National Institute of Technology, Tiruchirappalli)
“Ultrasound-Assisted Synthesis Of Samarium-Based Metal-Organic Framework For Supercapacitor Applications”
- 11:00 – 11:15 Oral Talk 14
Tatsuya Shishido¹, Yamato Hayashi¹, Hirotsugu Takizawa¹, Minoru Ueshima² (¹Tohoku University, ²Daicel Corporation)
“Fabrication of Ag coated SiO₂ particles via silver formate using sustainable sonochemical process”
- 11:15 – 11:30 Oral Talk 15
Yuki Mizuno¹, Jiye Jin², Yuta Yamamoto³, Tsuyoshi Yamaguchi¹, Keiji Yasuda¹ (¹Nagoya University, ²Shinshu University, ³Nagoya University)
“Size-tunable synthesis of Pt-shelled core-shell nanoparticles as highly active electrocatalysts using ultrafine bubbles and ultrasound”
- 9:00 – 10:15 Oral Session VII (Chair : K. Sekiguchi and B. Nanzai) : Main Hall B
- 9:00 – 9:15 Oral Talk 16*
Kotaro Fujishiro¹, Satoshi Okada², Takahiro Kuchimaru³, Yuta, Kurashina¹ (¹Tokyo University of Agriculture and Technology, ²Institute of Science Tokyo, ³Jichi Medical University)
“Evaluation of intracellular reactive oxygen species generated by high-frequency sonochemistry with titanium dioxide nanoparticles using a fluorescent indicator”
- 9:15 – 9:30 Oral Talk 17*
Quinten Goris¹, Ariana Bampouli¹, Mohammed Noorul Hussain¹, Olivier Louisnard², Georgios D. Stefanidis³, Tom Van Gerven¹ (¹KU Leuven, ²Université de Toulouse, ³National Technical University of Athens)
“A New Strategy in Modelling Sonochemical Reactors: Combining Acoustics with Heat and Mass Balances with Applications to Cavitating Viscous Fluids”
- 9:30 – 9:45 Oral Talk 18*
Madoka Yoshikawa, Yamato Hayashi, Hirotsugu Takizawa (Tohoku University)
“Sonochemical synthesis of CNF/AgNPs composites in aqueous media and their application as low-temperature sinterable conductive materials”
- 9:45 – 10:00 Oral Talk 19*
Benjamin Parrish, Lian Liu, Judy Lee (University of Surrey)
“Impact of Ultrasound Frequency & Power on Nucleation, Growth, &

	Fragmentation of Needle-Shaped Crystals”
10:00 – 10:15	Oral Talk 20* Xinyue Gong, Bingze Du, Xiasheng Guo, Dong Zhang, Juan Tu (Nanjing University) “Synergistic effect of ultrasound transdermal drug delivery based on multi-step dynamic focal shift”
10:15 – 10:30	Coffee Break
10:30 – 11:30	Oral Session VIII (Chair :M. Kubo and H. Matsumoto) : Main Hall B
10:30 – 10:45	Oral Talk 21* Ryota Aoki, Takuya Yamamoto (Osaka Metropolitan University) “Investigation on the occurrence mechanism of power-induced Quenching under high-intensity ultrasound”
10:45 – 11:00	Oral Talk 22* Kanji Hattori, Takuya Yamamoto (Osaka Metropolitan University) “Numerical analysis of dynamic behavior of acoustic cavitation bubble under an ultrasound with harmonic waves to elucidate the mechanism of power-induced quenching”
11:00 – 11:15	Oral Talk 23* S.W. Ching, T. Joyce Tiong (University of Nottingham Malaysia) “Ultrasound-assisted synthesis of silica-supported MgO-NiO nanocomposite for photocatalytic degradation of methylene blue”
11:15 – 11:30	Oral Talk 24* Qi Zhang ¹ , Gepu Guo ¹ , Xiaoge Wu ² , Qingyu Ma ¹ , Juan Tu ³ , Dong, Zhang ³ (¹ Nanjing Normal University, ² Yangzhou University, ³ Nanjing University) “2D spatiotemporal passive cavitation imaging and evaluation during ultrasound thrombolysis based on diagnostic ultrasound platform”
11:30 – 13:45	Lunch
13:45 – 14:15	JSS General Assembly (In Japanese)
14:15 – 14:30	Break

14:30 – 15:30	Symposium of Biomedical Application of Ultrasound (Chair : K. Ninomiya and K. Okitsu)
14:30 – 14:50	Plenary Lecture 2 Takashi Kondo, Keiji Yasuda, Jun Kumagai, Ken-ichi Inoue, Hiroshi Hashizume, Hiromasa Tanaka, Kenji Ishikawa, Masaru Hori (Nagoya University) “Free Radical Formation Induced by Ultrasound. Comparisons with Low-temperature Plasma and Ionizing Radiation”
14:50 – 15:10	Invited Talk 9 Ken-ichi, Kawabata (Sonire Therapeutics, Inc.) “Biological effects induced by ultrasound and their application for cancer therapy”
15:10 – 15:30	Invited Talk 10 Loreto B. Feril, Jr. ¹ , Hiroshi Kida ¹ , Yutaro Yamasaki ¹ , Takayuki Koga ¹ , Hitomi Endo ¹ , Katsuro Tachibana ¹ , Hiromasa Tanaka ² , Takashi Kondo ² (¹ Fukuoka University School of Medicine, ² Nagoya University) “Therapeutic ultrasound strategies in intra-abdominal cancer: potential of ultrasound and plasma-activated lactated Ringer’s”
15:30 – 16:00	Closing Ceremony

Notices

- The presentation time, including Q&A, is as follows.

Plenary Lecture : 30 min

Invited Talk and Oral Talk : 15 min

However, in Symposium of Biomedical Application of Ultrasound, all three presentations are 20 minutes long.

- Presentations marked with an asterisk (*) are candidates for the Young Scientist Award. The winners will be announced at the closing ceremony.

List of Poster Presentation

- P1* Hayata Yamamoto, Su-Gi Chong, Naoki Shida, Mahito Atobe (Yokohama National University)
“Acceleration of C-H Arylation Reaction by Ultrasonic Cavitation”
- P2* Naoya Tanimoto, Hideya Kawasaki (Kansai University)
“Ultrasound-Driven Surface Engineering of EGaIn Liquid Metal Particles for Enhanced Reduction Catalysis”
- P3* Yuzuki Furui, Jin Sone, Hideya Kawasaki (Kansai University)
“Evaluation of Hydrogen production for GCN-TiO₂ composite as sonocatalyst”
- P4* Teruyuki Masuda, Takamasa Saito, Masaki Kubo (Tohoku University)
“Control of response temperature of thermoresponsive polymers by ultrasonic irradiation condition”
- P5 Sayaka Higashi¹, Takafumi Horie², Hiroaki Sugiyama³, Akihisa Kanda³, Kuo-Lun Tung⁴, Keita Taniya¹, Satoru Nishiyama¹, Naoto Ohmura¹ (¹Kobe University, ²Osaka Metropolitan University, ³Kaneka Corporation, ⁴National Taiwan University)
“Effect of Intercalating Agents on Ultrasonic Exfoliation of ZrP Nanoparticles”
- P6* Shogo Kimura, Daisuke Kobayashi (Tokyo Denki University)
“Effects of flow rate on ultrasonic reaction using ultrasonic continuous tank reactor”
- P7* Ru-Nan Zhao^{1,2,3}, Wen-Jun Wang^{1,3}, Jiang-Ning Hu², Dong-Hong Liu^{1,3}, Bei-Wei Zhu^{1,2} (¹Zhejiang University, ²State Key Laboratory of Marine Food Processing and Safety Control, ³Zhejiang University)
“Ultrasound-fabricated hydrophobic cross-linked cyclodextrin metal-organic framework nanocarrier for improved quercetin stability and sustained release”
- P8* Rin Ito, Daisuke Kobayashi (Tokyo Denki University)
“Effects of relationships between frequency and particle size on activation of sonolysis”
- P9* Ruyu Zhang, Peng Lu, Wenjun Wang, Donghong Liu (Zhejiang University)
“Membrane Barrier Collapse via Ultrasound-Fenton: Synergistic Porolysis Enables Radical Access to Lipid Cores”
- P10* Mayuki Jono, Daisuke Kobayashi (Tokyo Denki University)
“Synthesis of PEMA particles using ultrasonic tandem emulsification method”
- P11 Donghong Liu (Zhejiang University)
“The mechanism and application of ultrasound in food preservation and sterilization”
- P12 Wenjun Wang, Congyi Xu, Donghong Liu (Zhejiang University)

- “Ultrasonication combined with pH-shifting pretreatment promotes soy protein fibrillation: Effects of pretreatment methods on growth kinetics and various properties”
- P13 Toshiki Yamanaka, Yamato Hayashi, Jun Fukushima, Hirotsugu Takizawa (Tohoku university)
- “Waste-free sonochemical synthesis of ZnO nanoparticles using Zn and pure water”
- P14* Akihiko Terada, Ben Nanzai (Shizuoka Institute of Science and Technology)
- “Elucidation of the cavity interface region by sonochemical degradation of solubilized micelles”
- P15* Masaki Unno¹, Kengo Honda¹, Susumu Nii², Rira Kumasaki², Ben Nanzai¹ (¹Shizuoka Institute of Science and Technology, ²Kagoshima University)
- “Interaction of surfactant molecules with ultrasonic cavitation”
- P16* Zhaokang Lei, Xinyi Zuo, Xiajie Guo, Chenghui Wang (Shaanxi normal university)
- “Research on the Generation of Functional Cavitation Structures Based on Boundary Condition regulation”
- P17* Shunta Morishima¹, Kazuhiro Yagishita², Ben Nanzai¹ (¹Shizuoka Institute of Science and Technology, ²ENEOS Corporation)
- “Changes in sonoluminescence intensity with ultrasonic irradiation in organic solvents”
- P18* Ryohei Oi, Rei Hayashi, Kazuaki Ninomiya (Kanazawa University)
- “Alkyl radical generation by ultrasound irradiation to liposomes encapsulating radical polymerization initiator”
- P19 Iseul Na, Chaewoon Hwang, Yeeun Kim, Younggyu Son (Kumoh National Institute of Technology)
- “Visualization of sonochemical activity in large-scale 20 kHz probe systems: Single and dual probe applications”
- P20 Chaewoon Hwang, Iseul Na, Jongbok Choi, Younggyu Son (Kumoh National Institute of Technology)
- “Sonoelectrochemical hydrogen generation in 300-kHz sonicator systems”
- P21 Yeji Lee, Iseul Na, Yuna Ko, Younggyu Son (Kumoh National Institute of Technology)
- “Effect of dissolved gas mixtures on sonochemical oxidation in 300 kHz sonoreactor systems: Generation of H₂O₂, NO₂⁻, and NO₃⁻”
- P22 Jongbok Choi, Dukyoung Lee, Iseul Na, Younggyu Son (Kumoh National Institute of Technology)
- “Enhanced degradation of PFAS by sonochemical reaction: Effects of dissolved gas”
- P23* Kosuke Arita, Kazuhiko Sekiguchi (Saitama University)
- “Decomposition of benzotriazole UV stabilizers using ultraviolet light and ultrasound”
- P24* Yuka Miyahara, Hirokazu Okawa, Ren Jie, Takahiro Kato (Akita University)

- “Effect of Ultrasound Frequency on recovery and purity of Maltene from Bitumen”
- P25 Jiye Jin¹, Qiran Zhang¹, Keiji Yasuda² (¹Shinshu University, ²Nagoya University)
- “Development of an Electrochemical Sensor for the Detection of Nitric Oxide Generated in Ultrasonic Reaction Fields”
- P26* Koki Azegami, Takumi Mitsumoto, Jiye Jin (Shinshu University)
- “Delayed Chemiluminescence of Luminol/Ascorbic Acid System Triggered by Ultrasound”
- P27 Masayuki Nakayama^{1,3}, Masaki Wakamiya¹, Junichiro Soejima¹, Junki Ono², Jiye Jin³ (¹Kaijo Corporation, ²AESC Japan Ltd., ³Shinshu University)
- “Sonochemical preparation of a gold nanoparticle–conductive polymer modified electrode for electrochemical determination of uric acid in human urine”
- P28* Hui-Won Ju, Jun-Seo Kim, Tae-Oh Kim (Kumoh National Institute of Technology)
- “Development and high-efficiency evaluation of a dye-sensitised solar cell (DSSC) utilising cavitation reactions to modify TiO₂ via an ultrasonic process”
- P29* Ye-Ji Park, Na-Hye Kim, Tae-Oh Kim (Kumoh National Institute of Technology)
- “Ultrasonic-Thermally Activated MOF for Efficient Formaldehyde Oxidation”
- P30* Yamato Ojio, Daisuke Kobayashi (Tokyo Denki University)
- “Effect of dissolved oxygen concentration on ultrasonic reaction field”
- P31 Yaorong Wu, Zhaokang Lei, Chenghui Wang (Shaanxi Normal University)
- “Analysis of the non-spherical vibration mode of bubbles in viscous liquids”
- P32 Anoop Kishore, Vatti¹, Jitendra, Carpenter¹, Sivakumar, Manickam² (¹Manipal Institute of Technology, ²Universiti Teknologi Brunei)
- “Encapsulation of Pharmaceutical Drugs in Nanoemulsion Formulations Using Molecular Dynamics Simulations”
- P33 Seong-Woo Shin, Hyeon-Bin Kim, Tae-Oh Kim (Kumoh National Institute of Technology)
- “Water electrolysis using ultrasonic synthesis nano-particle NiFe/MoO₃@CFP catalyst electrode”
- P34* Shinyu Nagasaka¹, Kazuhiko Sekiguchi (Saitama University)
- “Effect of CO₂ concentration on sonochemical reduction of CO₂ formed from calcium carbonate”
- P35 Hyang-Bok Lee^{1,2}, Pak-Kon Choi³ (¹Japan Women’s University, ²Kansai University, ³Meiji University)
- “Broadband noise in acoustic emission signals from a dancing bubble”
- P36* Jin Sone, Yuzuki Furui, Hideya Kawasaki (Kansai University)
- “Synergistic Photo-Piezocatalytic Activity of Exfoliated Graphitic Carbon Nitride Nanosheets Under Ultrasonic Irradiation”
- P37* Kazumi Yashima, Kaito Yokose, Kazuhiko Sekiguchi (Saitama University)

- “Decomposition of VOC gas by Fenton reaction at the gas-liquid interface of ultrasonic mist”
- P38 Gerard Nathan Mathias¹, K Vamshi Krishna Goud¹, Srikanth Divi, Anoop Kishore Vatti¹, Jitendra Carpenter¹, Sivakumar Manickam² (¹Manipal Institute of Technology, Universiti Teknologi Brunei)
- “Curcumin Encapsulation in Groundnut Oil-in-Water Nanoemulsions”
- P39 Tom Verstraeten¹, Susumu Nii², Naoki Komatsu³, Jean-Marc Leveque⁴ (¹Savoie Mont Blanc University, ²Kagoshima University, ³Kyoto University, ⁴Université Grenoble Alpes)
- “Surface Modification of Nanodiamonds by Irradiating 500 kHz Ultrasound”

Notices

- Core time:
 - Odd-number : 16:00 – 17:00
 - Even-number: 17:00 – 18:00
- Presentations marked with an asterisk (*) are candidates for the Young Scientist Award. The winners will be announced at the closing ceremony.