The 13th symposium of the Japan Society of Sonochemistry

the Basic and Applied Research Topics on Sonochemistry

Hibino, Tokyo, Japan
November 11 – 12, 2004

PROGRAM

The Japan Society of Sonochemistry (JSS)
The Chemical Society of Japan
The 13th symposium of the Japan Society of Sonochemistry

PROGRAM

Organized by
The Japan Society of Sonochemistry (JSS)

Co-organized by
The Chemical Society of Japan

Period
November 11(Thu.) - 12(Fri.), 2004

Venue
Hino Campus, Meisei University,
2-1-1 Hodokubo, Hino-shi, Tokyo, JAPAN

General Schedule

November 11
Opening Ceremony
Oral Presentation
Special Session I (Sonochemical Reactor)
Poster Session
Banquet

November 12
Oral Presentation
Special presentation II (Environmental protection)
Award(s) Session
Board of Directors Meeting
General Meeting
OPENING CEREMONY
Thursday, November 11
12:50-13:00

BANQUET
Thursday, November 11
18:10-20:00

BOARD of DIRECTORS MEETING
Friday, November 12
12:20-13:00

GENERAL MEETING
Friday, November 12
13:20-13:40

SCIENTIFIC PROGRAM
Thursday, November 11 (after noon)

Oral Presentation
<Chairperson: Sin-ichi Hatanaka>
1. 13:00 Synthesis of Conducting Polymer-Metal Nanoparticles Composite using Ultrasonic Irradiation
   Jong-Eun Park, Miyuki Saikawa, Mahito Atobe, and Toshio Fuchigami
   Tokyo Institute of Technology

2. 13:20 Sonochemical degradation of the aromatic compounds; influence of solute hydrophobicity on degradation rates
   Ben Nanzai, Takayuki Kameda, Kenji Okitsu, Norimichi Takenata, Hiroshi Bandow, and Yasuaki Maeda
   Osaka Prefecture University

<Chairperson: Ken-ichi Kawabata>
3. 13:40 Conversion of lignocellulosics through the phase-separation system with ultrasonic energy
   Yukiko Nagamatsu and Masamitsu Funaoaka
   Faculty of Bioresources, Mie University, CREST JST
4. 14:00  Effect of halide anions on single-bubble sonoluminescence  
   Kenji Nozaki, Shin-ichi Hatanaka, and Shigeo Hayashi  
   The University of Electro-Communications

5. 14:20  Ultrasonic effect on transesterification of vegetable oil with alcohol  
   Hiroyuki Nakui, Carmen Eugenia Stavarache, and Yasuaki Maeda  
   Electric Power Development and Osaka Prefecture University

**Special Session I** (Sonochemical Reactor)  
Special Oral Presentation

14:40  Ultrasonic foundation, action in the liquid and ultrasonic cleaning  
   Toshiyuki Kurihara and Takahito Nakadai  
   Ultrasonic Engineering Co., Ltd.

15:30  *Coffee break*

<Chairperson: Susumu Nii>

SI-1.  15:40  Investigation of sonochemical reaction parameters for the development of practical ultrasonic reactor  
   Seigo Hirayama  
   Kaijo Corporation

SI-2.  16:00  Comparison of 3 dosimeters for sonochemical reactions  
   Yasuo Iida, Kyuichi Yasui, Toru Tsuziuti, M. Sivakumar, and Atsuya Towata  
   AIST

SI-3.  16:20  Development of treatment system for wastewater polluted by VOC (Volatile organic Compound) and suggestion of research  
   Miura Michio  
   Sasakura Engineering Co., Ltd.

**Poster Session**  16:40 – 18:10

   (See POSTER SESSION latter for details)
Friday, November 12 (morning)

Special session II (Environmental protection)

Chairperson: Kenji Okitsu

SII-1. 9:10 CO2 production from hydrogencarbonates and its reduction
Tato Kajiwara and Hisashi Harada
Meisei University

SII-2. 9:30 Environmentally-friendly electropolymerization using sonoemulsion process
Ryosuke Asami, Mahito Atobe, and Toshio Fuchigami
Tokyo Institute of Technology

SII-3. 9:50 Sonolytic and photocatalytic degradation of toluene in a fluorocarbon (FC) / water emulsion solvent
Kazuhiko Sekiguchi, Keisuke Yamamoto, Kentaro suzuki, and Kazuhiko Sakamoto
Saitama University

SII-4. 10:10 Enhancement of ultrasonic disinfection of Legionella with TiO2 photocatalyst
S. Matsumura, D. M. Farshbaf, F. Yoshikawa, C. Ogino, and N. Shimizu
Kanazawa University

10:30 Coffee break

Chairperson: Masakazu Furuta

SII-5. 10:40 Sonochemical decomposition of persistent organic chloro-compounds - effect of solvents on sonochemical decomposition-
Youichi Takagi, Kenji Okitsu, Rokurou Nishimura, and Yasuaki Maeda
Osaka Prefecture University

SII-6. 11:00 Effect of dissolved oxygen on sonolysis of Bisphenol A
Masaki Kitajima, Shin-ichi Haranaka and Shigeo Hayashi
The University of Electro-Communications
SII-7. 11:20 Sterilization of Coliform Bacillus by fow and ultrasonic cavitation in physiological salt solutions
Kazunori Kobayashi, Yukio Ito, and Shin-ichi Okuda
Hachinohe Institute of Technonology

Oral Presentation
<Chairparson: Naoya Enomoto>
6. 11:40 Analysis of Acoustic Cavitation Temperature in aqueous solutions with various alcohol
Takeru Suzuki, Kenji Okitsu, Rokurou Nishimura, and Yasuaki Maeda
Osaka Prefecture University

7. 12:00 Ultrasound enhances liposome-mediated gene transfection
Ryohei Ogawa, Loreto B. Feril, Hideo Kobayashi, Hiroshi Kikuchi, and Takashi Kondo
Toyama Medical and Pharmaceutical University
and Daiichi Pharmaceutical Co.Ltd.

12:20 Lunch time (~13:20)

13:40 Award(s) Session

14:30 Coffee break

Friday, November 12 (after noon)

<Chairparson: Yasuo Iida>
8. 14:40 Sonochemical coating of iron oxide onto titanium oxide
Naoya Enomoto, Kosuke Yamada, Kai Kamada, and Junichi Hojo
Kyushu University

9. 15:00 Mechanical Properties of the bio soft tissues by ultrasound Insonation
N. Saiga, T. Yamamoto, N. Kinoshita and T. Hamada
Yonago College of Tech. and Matsushita Electric Works
10. 15:20  A comparison between ultrasound and gamma-ray effect on the inactivation of microorganisms considering cell membrane permeability or nucleic acid
Ikuko Tsukamoto, Tomo Takeda, Masakazu Furuta, and Yasuaki Maeda
Osaka Prefecture University

11. 15:40  Generation of oxygen atom in sonochemical reactions
Kyuichi Yasui, Toru Tsuziuti, M. Sivakumar, and Yasuo Iida
AIST

12. 16:00  Effect of aerosol formation on ultrasonic atomization
Kazuo Matsuura, Tetsuo Fukazu, and Susumu Nii
Ultrasound Co., Ltd and Nagoya University

13. 16:20  Effect of ultrasonic irradiation in the aldol reaction using amine-SiO2
Yasuomi Takizawa and Wataru Nakama
Tokyo Gakugei University

14. 16:40  In situ monitoring of sonochemical reaction field with optical and acoustical methods
Ken-ichi Kawabata, Takashi Azuma, and Sin-ichiro Umemura
Hitachi, Ltd.
P-1. Ultrasonic cavitation in 1D and 2D microspace
Yasuo Iida, Toru Tsuziuti, M. Sivakumar, Atsuya Towata, and Kyuichi Yasui
AIST

P-2. Ultrasonic flow in 1D and 2D microspace
Yasuo Iida, M. Sivakumar, Kyuichi Yasui, Atsuya Towata, and Toru Tsuziuti
AIST

P-3. Effect of ultrasonic irradiation on the charge transport process in electrotech
Jiye Jin and Tatsuya Tanaka
Shinshu University

P-4. Sonophotocatalytic reaction of oxalic acid using powdered TiO2 photocatalyst
Hisashi Harada
Meisei University

P-6. Effects of hydrogen peroxide and ultrasonic irradiation on degrading organic matter in the presence of TiO2
Hidekazu Okuno and Shigeo Morinaga
Toin University of Yokohama

P-7. Generation of OH radicals with irradiation of ultrasound on titanium dioxide in aqueous solution
M. Funakoshi, D. M. Farshbaf, F. Yoshikawa, C. Ogino, and N. Shimizu
Kanazawa University

P-8. Sonochemical reduction of CO2 under hydrogen atmosphere
Aki Yoneyama and Hisashi Harada
Meisei University
P-9. Effect of ultrasonic and photoic irradiation on electrolysis of endocrine disruptors

Naomi Takagami, Shojiro Maki, Haruki Niwa, Shin-ichi Haranaka and Shigeo Hayashi

The University of Electro-Communications

P-10. Ultrasonic decomposition of organic pollutants in water altogether with TiO2 photocatalyst -Effect of photocatalyst amount and frequency on the decomposition ratio-

Kazuhiko Sekiguchi, Chie Sasaki, Kentaro Suzuki, and Kazuhiko Sakamoto

Saitama University

P-11. Removal performance of chlorinated organic compounds from wood chip by ultrasonic irradiation

Keiji Yasuda, Akira Takeuchi, Masaaki Nakamura, Etsuaki Nunoo, and Yoshiyuki Asakura

Nagoya University, Toyota Motor Corp., and Honda Electronics Co. Ltd.

P-12. The effect of sonochemical decomposition products of toxic compounds on the growth of microorganism -calorimetric analysis-

Tomo Takeda, Ikuko Tsukamoto, Masakazu Furuta, and Yasuaki Maeda

Osaka Prefecture University

P-13. Ultrasonic treatment of vegetable oil in the presence of ceramic membranes having quaternized ammonium group

Kyaing Kyaing Latt and Takaomi Kobayashi

Nagaoka University of Technology

P-14. Performance of traveling-wave super-sonic washer using ozone or electric sterilization

Masanori Hara, Kyohei Nishiyama, Takanori Shigehara, and Toyotoshi Ueda

Meisei University and Eroica Corp.

P-15. The effect of sonication on the photochemical hydrogen formation in benzophenone-2-PrOH-Pt colloid solution

Yuichiro Takashima, Keisuke Shimaya, and Katsuhiko Hirano

Shibaura institute of technology
P-16. Enhancement of sonochemical reaction by dual ultrasonic frequencies
Tatsuya Torii, Masaaki Nakamura, Keiji Yasuda, Kyuichi Yasui, Toru Tsuziuti,
and Yasuo Iida
Nagaoka University and AIST

P-17. Selective magnetic separation of sulfur-containing amino acids using
Au/Fe2O3 composite nanoparticles synthesized by sonochemical reduction
Yoshiteru Mizukoshi, Satoshi Seino, Takayuki Kinoshita, Kenji Okitsu,
Takashi Nakagawa, and Takao Yamamoto
Osaka Prefecture college of Technology, Osaka University
and Osaka Prefecture University

P-18. Ultrasound-assisted extraction of vitamin B2 from rice bran
Masatoshi Aihara, Atushi Fukuda, and Yoshifumi Akama
Meisei University

P-19. MBSL spectra in the broadband frequency
Yuichi Hayashi and P-K. Choi
Meiji University

P-20. Enhancement of OH radical reaction by a sonoluminescing bubble breaking up
Shin-ichi Haranaka and Shigeo Hayashi
The University of Electro-Communications

P-21. Frequency dependence on quenching of single-bubble sonoluminescence
Eisuke Hatakeyama, Kenji Nozaki, Shin-ichi Haranaka and Shigeo Hayashi
The University of Electro-Communications

P-22. Ultrasonic frequency effects on nanoparticle synthesis
Tatsuya Suzuki, Tatsuro Matsuoka, and Shinobu Koda
Nagoya University

P-24. Frequency dependence of sonodegradation of water-soluble polymer
Mitsue Fujita, Hajime Sohmiya, and Takahide Kimura
Shiga University of Medical Science
P-25. Study on sonochemical cylindrical reactors by thermography
Yoshiyuki Asakura and Shinobu Koda
Honda Electronics Co. Ltd. and Nagoya University

P-26. Ultrasonic Microbubble Generation from Perfluorocarbon-Containing Nano Micelle
Nami Sugita, Ken-ichi Kawabata, Hideki Yoshikawa, Takashi Azuma, and Sin-ichiro Umemura
Hitachi, Ltd.