

The 2nd International Symposium on Applications of Supercritical Fluids in Green Chemistry and Material Science

PROGRAM

8:30 - 9:00 **Registration**
9:00 **Opening talk** **Prof. Motonobu Goto**

Plenary Lectures

Chair: Prof. Youn-Woo Lee (Seoul National University, Korea)

9:10 - 9:30 **PL-1** **Prof. Ki-Pung Yoo** Sogang University, Korea
Supercritical CO₂ Resist Removal from Pattern Wafer and MEMS Drying in Semiconductor Fabrication

9:30 - 9:50 **PL-2** **Prof. Motonobu Goto** Kumamoto University, Japan
Development of Chemical Recycling Process for Waste Plastics Using Supercritical Fluid Technology in Japan

9:50 - 10:00 Coffee break

Oral Lectures

Chair: Dr. Wahyudiono (Kumamoto University, Japan)

10:00 - 10:10 **OL-1** **Dr. Young-Ho Lee** Seoul National University, Korea
Synthesis of the Li₄Ti₅O₁₂ particles in supercritical water and methanol

10:10 - 10:20 **OL-2** **Mr. Nae Chul Shin** Seoul National University, Korea
Solvothermal Synthesis of Ni Nanoparticles Using Supercritical Methanol

10:20 - 10:30 **OL-3** **Mr. Ki Ho Ahn** Seoul National University, Korea
Effect of CTAB (Cetyltrimethylammonium bromide) on Morphology of Zinc Oxide Nanoparticles Synthesized in Supercritical Methanol

10:30 - 10:40 **OL-4** **Dr. Mitsuru Sasaki** Kumamoto University, Japan
Development of New Processes for Chemical Production and Waste Treatment in Sub- and Supercritical Water

10:40 - 10:50 **OL-5** **Dr. Jing Zhang** Tohoku University, Japan
Surface modification of ceria nanocrystals and their binding property

10:50 - 11:00 **OL-6** **Ms. Varu Rani** Tohoku University, Japan
Nanoparticles for Biomedical Applications (Review)

Chair: Dr. Mitsuru Sasaki (Kumamoto University, Japan)

11:10 - 11:20 **OL-7** **Mr. Byung-Min Lee** Seoul National University, Korea
Solvent effect on HMX and RDX crystallization induced by supercritical CO₂ as antisolvent

11:20 - 11:30 **OL-8** **Dr. Siti Machmudah** Kumamoto University, Japan
Simulation for Simultaneous Extraction of Hydrophilic and Hydrophobic Compounds with Supercritical CO₂ and Water

11:30 - 11:40 **OL-9** **Ms. Ruhan Askin** Kumamoto University, Japan
Extraction of Bioactive Compounds from *Ganoderma lucidum*

11:40 - 11:50 **OL-10** **Ms. Shiori Goto** Washington State University, USA
Supercritical CO₂ Extraction of Essential Oil from Wet Peel of Hyuganatsu

11:50 - 12:00 **OL-11** **Mr. Masahiro Tanaka** Kumamoto University, Japan
Separation of pectin from flavedo of Citrus junos using Sub critical water

12:00 - 12:10 **OL-12** **Mr. Yong-Suk Youn** Seoul National University, Korea
The effects on particle size of Clarithromycin in the SAS technique

12:10 - 12:20 **OL-13** **Mr. Hun Wook Lee** Seoul National University, Korea
Decomposition of Acrylonitrile Wastewater by Supercritical Water Oxidation

12:20 - 12:25 **Announcement** **Dr. Wahyudiono**

12:25 - 13:30 **Lunch time**
Participants can find out posters which students in Goto laboratory have been studying at the 100 years memorial hall from 8:30am to 5:30pm on June 27th.

Plenary lectures

Chair: Prof. Motonobu Goto (Kumamoto University, Japan)

- 13:30 - 13:50 **PL-3** **Prof. Tadafumi Adschiri** Tohoku University, Japan
Supercritical Hydrothermal Synthesis of Organic-Inorganic Hybrid Nanoparticles -Towards Superhybrid Nanomaterials-
- 13:50 - 14:10 **PL-4** **Prof. Youn-Woo Lee** Seoul National University, Korea
Research and Development Activities of Supercritical Fluid Technology at Seoul National University
- 14:10 - 14:20 **Coffee break**

Oral lectures

Chair: Dr. Siti Machmudah (Kumamoto University, Japan)

- 14:20 - 14:30 **OL-14** **Dr. Hong Li** Tohoku University, Japan
Synthesis of Indium Tin Oxide (ITO) Nanoparticles in Supercritical Water
- 14:30 - 14:40 **OL-15** **Dr. Jungwoo Yoo** Tohoku University, Japan
Hybrid Nanoparticles toward to Living Cells Bio-Imaging "Bio-Imaging technology with Quantum Dot"
- 14:40 - 14:50 **OL-16** **Mr. Jin-Seong Jeong** Seoul National University, Korea
Recrystallization of Cefpodoxime Protexil (CPD) Particles using Supercritical Carbon Dioxide
- 14:50 - 15:00 **OL-17** **Mr. Takashi Saito** Kumamoto University, Japan
Hydrothermal decomposition of D-xylose with continuous flow reactor
- 15:00 - 15:10 **OL-18** **Dr. Yutaka Kuwahara** Kumamoto University, Japan
Study of nanoparticle synthesis and application under high pressure conditions
- 15:10 - 15:20 **OL-19** **Ms. Asli Yuksel** Kumamoto University, Japan
Hydrothermal Electrolysis of Organic Compounds in Sub-critical Water
- 15:20 - 15:30 **OL-20** **Dr. Wahyudiono** Kumamoto University, Japan
Chemical Conversion of Biomass Model Compounds in Hydrothermal Treatments
- 15:30 - 15:40 **OL-21** **Mr. Takayuki Kanetake** Kumamoto University, Japan
Understanding of lignin degeneration behavior in sub- and supercritical water
- 15:40 - 15:50 **Coffee break**

Chair: Dr. Yutaka Kuwahara (Kumamoto University, Japan)

- 15:50 - 16:00 **OL-22** **Mr. Hong-shik Lee** Seoul National University, Korea
Synthesis of Biodiesel Fuel from Vegetable Oil using Supercritical Methanol in a Continuous Reactor
- 16:00 - 16:10 **OL-23** **Mr. Dae Sung Kim** Seoul National University, Korea
Synthesis of Terephthalic Acid from p-Xylene in High Temperature and Pressure Water
- 16:10 - 16:20 **OL-24** **Ms. Kiwa Kitada** Kumamoto University, Japan
Simultaneous extraction of caffeine and chlorogenic acid from green coffee beans with supercritical CO₂ and water
- 16:20 - 16:30 **OL-25** **Mr. Akihiro Yoshida** Kumamoto University, Japan
Decomposition of phenol by using discharged plasma in hydrothermal and pressurized water
- 16:30 - 16:40 **OL-26** **Mr. Omid Pourali** Osaka Prefecture University, Japan
Rice bran oil stabilization using sub-critical water treatment
- 16:40 - 16:50 **OL-27** **Mr. Ju-Hyeong Jeong** Seoul National University, Korea
Recycling of cross-linked polyolefin in supercritical fluid
- 16:50 - 17:00 **OL-28** **Mr. Sung Jin Yoo** Seoul National University, Korea
Biodiesel production using supercritical methanol with different heterogeneous catalysts
- 17:00 - 17:05 **Closing talk** **Prof. Motonobu Goto**
- 17:05 - 17:15 **Announcement** **Dr. Mitsuru Sasaki**
- 18:30 - 20:30 **Symposium Dinner (at Kumamoto City Center)**

List of posters

- P-1** **Mr. Hiromichi Koga** Graduate School of Science and Technology, Kumamoto University, Japan
Conversion of Glycerin with Hydrothermal Electrolysis
- P-2** **Mr. Kohichi Nagafuchi** Graduate School of Science and Technology, Kumamoto University, Japan
Chemical reaction in supercritical carbon dioxide using electrical discharge plasma
- P-3** **Mr. Tomoki Iwanaga** Graduate School of Science and Technology, Kumamoto University, Japan
Stability of Gold nanoparticle Assemblies
- P-4** **Mr. Masafumi Mitsugi** Graduate School of Science and Technology, Kumamoto University, Japan
Decomposition of phenol by using discharged plasma in subcritical water
- P-5** **Mr. Kaoru Kumamaru** Graduate School of Science and Technology, Kumamoto University, Japan
Study of Formation of Gold Nanorods Using Maltichain Surfactants
- P-6** **Mr. Kentaro Mori** Graduate School of Science and Technology, Kumamoto University, Japan
Solvothermal Treatment for Recycling of CFRP by using Sub-critical Alcohol
- P-7** **Mr. Hiroaki Kawanabe** Graduate School of Science and Technology, Kumamoto University, Japan
Adsorption and Remove Inhibitory Substance of Alcohol Fermentation from Hydrothermally-Processed Biomass
- P-8** **Mr. Jin Izumi** Faculty of Engineering, Kumamoto University, Japan
Supercritical CO₂ extraction from automobile catalyst with chelating agent
- P-9** **Mr. Minori Haba** Graduate School of Science and Technology, Kumamoto University, Japan
Hybrid technique of laser ablation and supercritical fluid