

Curriculum Vitae

Hideki SAKAI

(酒井 秀樹)

Name:

Family name: Sakai (酒井)

Forenames: Hideki (秀樹)

Date of birth: 20 June, 1967

Place of birth: Tokyo, Japan

Nationality: Japan

Present address: Department of Pure and Applied Chemistry,
Faculty of Science and Technology,
Tokyo University of Science
2641 Yamazaki, Noda, Chiba 278-8510, Japan.

Present position: Associate Professor.
Faculty of Science and Technology, and Institute of Colloid and
Interface Science, Tokyo University of Science

Education:

1986-1990 Department of Industrial Chemistry, Faculty of Engineering,
University of Tokyo, Awarded the degree of BEng.

1990-1992 Department of Applied Chemistry, Faculty of Engineering,
University of Tokyo, Awarded the degree of MEng.

1992-1995 Department of Applied Chemistry, Faculty of Engineering,
University of Tokyo, Awarded the degree of PhD for
a thesis entitled "Microscopic observation of photo-induced
phenomena at the solid/liquid interface".
Work supervised by Prof. Akira Fujishima

Research and professional experience:

1995-1999	Assistant professor, Department Pure and Applied Chemistry, Faculty of Science and Technology, Science University of Tokyo
1998-1999	Visiting Researcher, Department of Chemical Engineering, University of Delaware, U.S.A.
1999-2003	Lecturer, Department Pure and Applied Chemistry, Faculty of Science and Technology, Science University of Tokyo
2003-present	Associate Professor, Department Pure and Applied Chemistry, Faculty of Science and Technology, Science University of Tokyo

Award:

Award for the best paper,

Electrochemical Society of Japan (1992)

Japanese Oil Chemists' Society (2000, 2001, 2005)

Japan Society of Color Material (1998, 2000)

Material Technology (2001)

Young Researcher Award,

Japanese Oil Chemists' Society (2004)

Colloid and Interface Chemistry Division, Japanese Chemical Society, (2004)

Research Interest:

- 1) Solution properties of surfactants molecular assemblies (micelle, vesicle, liposome, liquid crystals)
- 2) Switching the formation of the surfactant molecular assemblies with external stimuli (light irradiation, redox reactions, pH change, and so on).
- 3) Preparation of nanomaterials (ultrafine particles and mesoporous materials) using surfactant molecular assemblies as reaction templates
- 4) Photocatalytic reaction of titanium dioxide (TiO₂)
- 5) Nanoscopic observation of interfaces using atomic force microscopy (AFM) and freeze replica transmission electron microscopy (TEM).

Brief abstracts of topics 2) and 3) are attached as different PDF files.

Publications: About 200 papers and books

Recent Selected publications:

1. Preparation of Highly Dispersed Core/Shell-Type Titania Nanocapsules Containing Single Ag Nanoparticle
H. Sakai, T. Kanda, H. Shibata, T. Ohkubo, M. Abe
Journal of the American Chemical Society, 128(15), 4944-4945, (2006).
2. Preparation and Formation Mechanism of Mesoporous Titania Particles having Crystalline Wall
H. Shibata, H. Mihara, T. Mukai, T. Ogura, H. Kohno, T. Ohkubo, H. Sakai, M. Abe,
Chemistry of Materials, 18(9), 2256-2260 (2006).
- 3 Hybrid Langmuir and LB Films Composed of Amphiphilic Cyclodextrins and Hydrophobic Azobenzene Derivatives”
Y. Matsuzawa, M. Matsumoto, S. Noguchi, H. Sakai, M. Abe,
Molecular Crystals and Liquid Crystals, 445(1), 429-437 (2006).
4. Photoinduced Reversible Change of Fluid Viscosity
H. Sakai, Y. Orihara, H. Kodashima, A. Matsumura, T. Ohkubo, K. Tsuchiya, M. Abe,
Journal of the American Chemical Society, 127(39), 13454-13455 (2005).
5. Direct Synthesis of Mesoporous Titania Particles Having a Crystalline Wall
H. Shibata, T. Ogura, T. Mukai, T. Ohkubo, H. Sakai, M. Abe,
Journal of the American Chemical Society, 127(47), 16396-16397 (2005).
6. Preparation of Mesoporous Titania Particles with Photocatalytic Activity under Visible Light Irradiation
H. Shibata, T. Mukai, T. Akita, T. Ohkubo, H. Sakai, M. Abe,
Chemistry Letters, 34(12), 1696-1697 (2005).
7. Control of Viscoelasticity Using Redox Reaction.
K. Tsuchiya, Y. Orihara, Y. Kondo, N. Yoshino, T. Ohkubo, H. Sakai, M. Abe,
Journal of the American Chemical Society, 126(39), 12282-12283 (2004).
8. Nanoscale Patterning of Adsorbed Amphiphile Films with an Atomic Force Microscope Probe
H. Sakai, W. Yokoyama, J. Rathman, M. Abe,
Langmuir, 19(7), 2845-50 (2003).
9. Dimpled Polymer Particles Prepared by a Single-Step Method in an Acoustic Field
T. Sakai, H. Sakai, M. Abe, *Langmuir*, 18(10), 3763-3766 (2002).
10. Reversible Release Control of an Oily Substance Using Photoresponsive Micelles
Y. Orihara, A. Matsumura, Y. Saito, N. Ogawa, T. Saji, A. Yamaguchi, H. Sakai, M. Abe,
Langmuir, 17(20), 6072-76 (2001).
11. AFM Observation of Nanostructure of Tetradecyltrimethylammonium Bromide Films Adsorbed at Mica / Solution Interface
H. Sakai, H. Nakamura, M. Abe, *Langmuir*, 17(6), 1817-1820 (2001).
12. Photochemical Switching of Vesicle Formation Using an Azobenzene-Modified Surfactant
H. Sakai, A. Matsumura, T. Saji, M. Abe,
J. Phys. Chem., 103, 10737-10740 (1999).