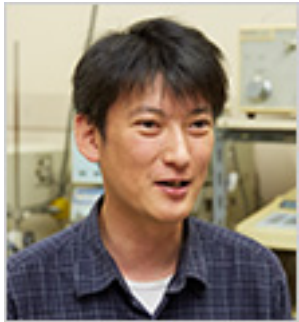


Requests for Collaboration

Name: Koichi Igarashi Current position: Associate Professor E-mail address: igarashi@osaka-cu.ac.jp	
Research Interests <ul style="list-style-type: none">● Crystallization of organic compounds such as pharmaceuticals. Precise control of polymorphism and particle size.● Development of novel continuous crystallizer.● Utilization of biomass, especially lignin.	
Creative Achievements in The Application of New and Existing Science and Technology	
<p>(1) A novel polymorph of highly water-soluble compounds using liquid-liquid two-phase separation. We developed a unique device to find the oiling out point of the solution at various concentrations, temperatures, and solvent compositions. This technique can be applied to the crystallization of polypeptides and polysaccharides.</p> <p>(2) Development of small continuous flow crystallizer to produce uniform microcrystals. A high-speed stirrer is equipped with the crystallizer, and homogeneous microcrystals can be obtained by performing anti-solvent crystallization with this equipment. It is also available for polymorphic control.</p> <p>(3) UCT-hydrothermal treatment method was developed for the degradation of various biomass. UCT solvent is composed of diluted sulfuric acid (up to 2%) and water immiscible organic solvent. Biomass is degraded into xylose in a water phase, lignin in an organic phase, and cellulose as residue. This process can be performed at a considerably low temperature.</p>	
Technology (Product, Process, Device, Service etc.) That I Want to Request for Collaboration	
<ul style="list-style-type: none">● Control of crystal polymorphs and size distribution of organic compounds● Application of the continuous flow crystallizer for industrial production● Utilization of lignin degrades produced by UCT-hydrothermal treatment	
A List of 5 Key Publications	
<ul style="list-style-type: none">• <u>K. Igarashi</u>, S. Kihara, and H. Ooshima*, Crystallization behavior of ibuprofen under the microwave irradiation, <i>Journal of Chemical Engineering of Japan</i>, 46, 797-801 (2013)• <u>K. Igarashi*</u> and H. Ooshima, Cooling Crystallization Using a mL-Scale Continuous Crystallizer Equipped with a High Speed Agitator for Production of Uniform Small Crystals, <i>Journal of Chemical Engineering of Japan</i>, 49, 805-808 (2016)• Masaru Hirano, <u>Koichi Igarashi*</u> and Hiroshi Ooshima, Localized Solvent Effects on the Crystal Habit of <i>tert</i>-Butoxycarbonyl-L-asparagine (BocASN), <i>Journal of Chemical Engineering of Japan</i>, 50, 207-212(2017)• <u>Koichi Igarashi*</u>, Masako Aoki, Yoshiko Masuda, Masayuki Azuma and Hiroshi Ooshima, Behavior of <i>t</i>-butoxycarbonyl-L-asparagine (Boc-Asn) on the initial stage of crystallization, <i>Journal of Chemical Engineering of Japan</i>, 50, 111-115(2018)• Muneki Kishida, <u>Koichi Igarashi</u>, Masayuki Azuma and Hiroshi Ooshima, Pharmaceutical Microcrystal Formation by Supersaturation Control with an Electrolyte, <i>Journal of Chemical Engineering of Japan</i>, 51(7), 1-6(2018)	