## **Development of Precision Design-Syntheses for On-Demand Polymer Nanocomposite Dispersions**

## **1. Preparation of Functional Polymeric Microspheres** and Application to Electronic Paper Clear Fluid Kawaguchi Lah DAAB-VBC SB5 SR49-VBC 2. Development of Transparent Organic-inorganic **Optical** Materials

## Professor Seigou Kawaguchi

Content: Our laboratory is conducting research on environmentfriendly heterogeneous polymerization methods (micellar polymerization, emulsion polymerization, dispersion polymerization, mini-emulsion polymerization, etc.) using water as a medium (solvent). Polymer fine particles are widely used in fields such as low environmental load paints, adhesives, color materials, digital printing materials, copying toner, liquid crystal spacers, electronic materials, cosmetics, chromatographic fillers, medical diagnostic agents, and sustained release capsules. We are developing super water-resistant metallic paints, near infrared shielding particles, high refractive index particles, and color particles. In addition, the laboratory conducts research activities in a wide range of fields including macromomers, special structure polymers, living radical polymerization, stereo-controlled polymerization, organic/inorganic hybrid optical materials, and dilute solution physical properties of polylactic acid.

**Appealing point**: We have a track record of conducting many industry-academia collaborative research. Utilizing the knowledge, experience, and research results gained through many years of education and research activities, we can carry out technological development together with corporate engineers.

Yamagata University Graduate School of Organic Materials Science Research Interest : Polymer Synthesis & Physics

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