

# Advanced Functional Materials by Precise Polymerization and Self-assembly

## Professor Hideharu Mori



### Content:

Recent development in controlled radical polymerization methods has provided methodologies to synthesize well-defined functional polymers by a very facile and simple approach. Our research interests are focused on the design and synthesis of nanostructured polymeric materials and advanced functional materials. We mainly employed reversible addition-fragmentation chain transfer (RAFT) polymerization, which is the most versatile controlled radical polymerization, and self-assembly system. Representative research topics are the developments of microfabrication technique of high-refractive-index polymers by nanoimprinting, amino acid-based polymers having specific interactions with DNA and proteins, ion-conductive polymeric nanomaterials, and self-healing organic-inorganic hybrids using silsesquioxane nanoparticles.

### Appealing point:

Our current activities are also focused on the exploration of next-generation polymeric materials, which will contribute to the innovation in the environmental, bio-related, and energy sectors, by modern polymer chemistry.

Yamagata University Graduate School of Organic Materials Science  
Research Interest : Polymer Synthesis and  
Nanomaterials

E-mail : [h.mori@yz.yamagata-u.ac.jp](mailto:h.mori@yz.yamagata-u.ac.jp)  
Tel : +81-238-26-3765  
Fax : +81-238-26-3749



HP : <http://mori-lab.yz.yamagata-u.ac.jp/english/english.html>