



演 題 : **Block Copolymer Micelles in Complex Packing**

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場 所 : MC030, Faculty of Engineering



※Zoom online platform

<https://zoom.us/j/98269473670?pwd=n24aaThX3MDHualg78qlk2hceEkkke.1>
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Abstract:

Microphase separation of block copolymer (bcp) can generate spherical micelles at large compositional asymmetry. Similar to colloidal particles, the typically repulsive interaction between micelles leads to their organization into long-range ordered lattices. Body centered cubic (BCC) lattice is the predominant packing structure found in the bcp systems. Over the past decade, the discovery of other packing symmetries, including close-packed lattices and Frank-Kasper (FK) phases, has reignited significant research on the spherical phase of bcp. In this lecture, I will present the facile approaches for generating the FK phases in bcp, including the access of Laves phase via the thermal processing that modulates micelle size dispersity and the introduction of FK phase window by selective incorporation of metal salt. Furthermore, I will demonstrate that a full spectrum of FK phase and dodecagonal quasicrystal (DDQC) having been discovered among different bcps can be accessed within a single glycolipid-inspired block oligomer system, highlighting the critical role of high- χ /low- N characteristics in promoting the stability of the complex packing structure.

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