

||||| 特集：国際宇宙ステーションの応用利用 |||||  
(解説)

## 名工大拠点「新素材の創成」プロジェクトにおける取り組み ～自己組織化による高次秩序構造を利用した新素材の創成～

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### Construction of Highly Well-ordered Structure by Self-organization toward Development of Novel Material

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#### Abstract

Construction of large and highly oriented structure by means of self-organization of macromolecules have much attention to develop novel materials. Convection-, buoyancy- and sedimentation-free environment under microgravity contributes to give highly uniform and oriented self-organized structure. In this project, two themes based on self-organization of macromolecules are progressing. The first theme is "Creation of well-ordered periodic crystal by block copolymer". We are aiming to obtain highly well-ordered three-dimensional structure with sub-micron scale to produce environmental sensors, photonic sheet, and so on. The second theme is "Creation of two dimensional nano-patterns by peptides". In this theme, large and highly oriented two-dimensional ordered arrays would be constructed by self-assembly of designed peptides with nanometer size. The obtained structure would be applied as a template of super water repellent glass, electronic device, and so on.