

open seminar series

## 第25回 情報統合型研究交流会

# Modeling and analysis of smart wrinkle-free membranes



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10:30 – 11:30

**Seminar Room, 8<sup>th</sup> Floor,  
Main Bldg. NIMS Sengen site**

For crystalline biopolymers in the thin membrane limit, an interplay of material and structural non-linearities is observed. These membranes can display fine-scale features both due to wrinkling that one expects in thin elastic films and due to oscillations of the local optical axis that one expects in liquid crystal elastomers. By providing an explicit characterization of the effective energy of membranes and the effective state of mechanical stress, I will show how formation of highly oscillating deformation gradients at the microscopic scale can suppress wrinkling in liquid crystal elastomers membranes.

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