

2022年度第1回機械工学セミナー

# Watching paint dry – From colloidal droplets to complex nanostructures

**Speaker : Dr. Arash Nikoubashman**

**Research Group Leader**

**Institute of Physics,**

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**Date & Time : Wednesday, April 27, 2022 16:30-17:30 (Open 16:15)**

**Venue : Yagami campus, 14-2F Seminar Room 2**

**Host : Department of Mechanical Engineering**

**Summary of Lecture :**

Drying colloidal dispersions are encountered in many technological processes, including painting, inkjet printing, and spraying pesticides. In these technologies, colloidal particles are typically initially dispersed in a solvent, which then evaporates, leaving behind a dried residue of colloidal particles. Previous experiments and simulations of bidisperse colloidal suspensions revealed, that sufficiently fast evaporation can lead to segregated structures. The ability to fabricate structures with such (multi-)layered morphologies in a single processing step is highly promising for applications in coating, catalysis, and chromatography. To understand this counterintuitive behavior, we conducted a range of particle-based simulations and dynamic density functional theory calculations.

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Free admission, Open to anyone,  
Pre-registration not required



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