Using the Light Microscopy Module (LMM) on the International Space Station (ISS)
The Advanced Colloids Experiment (ACE) and MacroMolecular Biophysics (MMB)

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ACE-T1 (Chang-Soo Lee et al.)
Removing sedimentation, convection, and particle jamming by experimenting with Janus particles in microgravity enables new understanding and insights in both fundamental science and in colloidal engineering, important for deep-delivery of drugs and cosmetics.

ACE-H2 (Stuart Williams et al.)
ACE-H2 is investigating the impact that charged nanoparticles have on the stability of a colloidal solution. The addition of nanoparticles may extend the shelf life of colloidal suspensions as well as enable their use in commercial applications (i.e., surface coatings). These images show two colloidal samples, one stable and the other unstable, at the end of the 6-week observation on the ISS along with their 20 discrete Fourier transform, a measure of pattern size and shape used to quantify the degree of aggregation among the colloids.