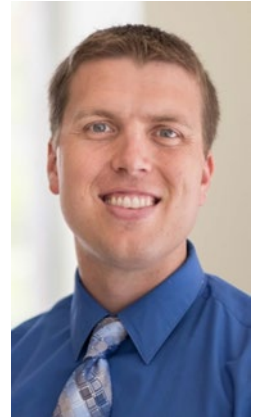
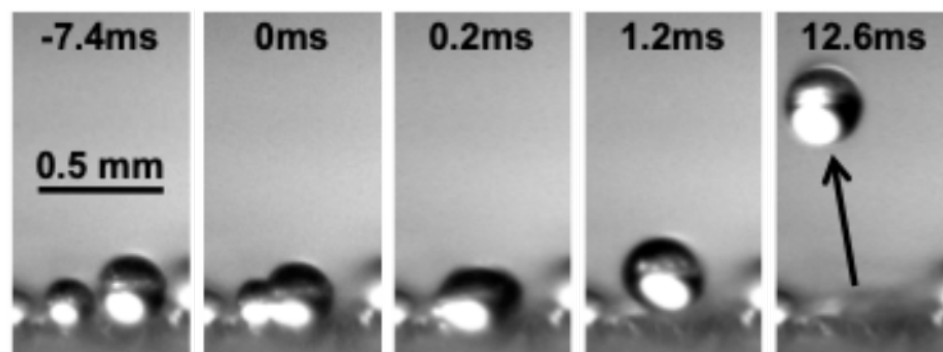


Title 15 Variations on a Theme of Jumping Droplets**Speaker** *Associate Professor Jonathan Boreyko*
Department of Mechanical Engineering,
Virginia Tech, U.S.A.**Time & Date** 2:30 PM (JST), Tuesday, June 30th, 2026**Venue** Hybrid format (I²CNER Hall C, I²CNER Bldg. 1, Ito Campus, Zoom)**Abstract**

When micro-droplets coalesce on a low adhesion substrate, they dramatically jump off the surface (Figure 1). Here, we develop the underlying fluid mechanics of jumping droplets and then present 15 variations on a theme of capillary-inertial jumping. In addition to being a fun and visceral illustration of the power of surface tension at the micro-scale, capillary-inertial jumping has the potential to improve the energy efficiency of a wide variety of practical systems. Examples include enhancing the condensation heat transfer coefficient, enabling self-cleaning materials, combating frost formation, and even enhancing crop yields.

**Figure 1:** Side-view high-speed imaging of jumping-droplet condensation.**About the Speaker**

Dr. Jonathan Boreyko is an Associate Professor at Virginia Tech in the Department of Mechanical Engineering and runs the Nature-Inspired Fluids & Interfaces lab. His research lies at the intersection of interfacial fluid mechanics, phase-change heat transfer, and materials science. He has over 80 publications and is best known for co-discovering jumping-droplet condensation, inter-droplet ice bridging during frost growth, and harvesting fog with harps. He is an Associate Editor for *Droplet* and the *International Journal of Heat and Mass Transfer*.

Registration <https://forms.cloud.microsoft/r/iBspdN5WNR>**Host** Associate Professor Zhenying Wang**Contact** I²CNER · Q-PIT Office of Research Support Services,
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