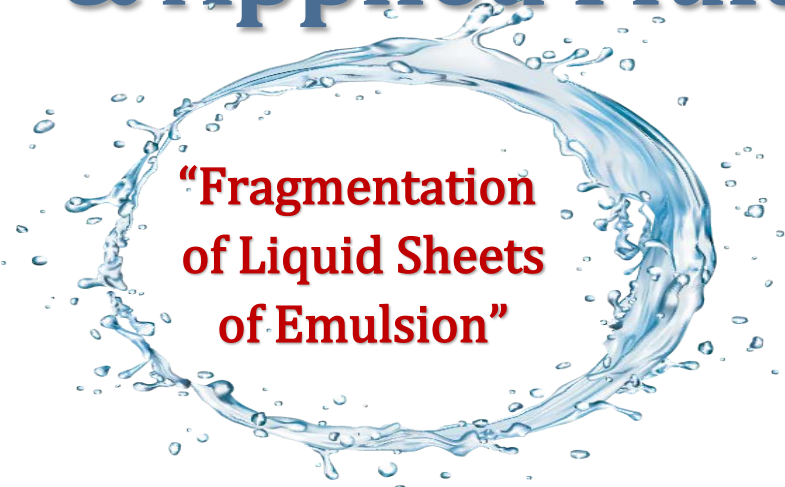


# Center for Environmental & Applied Fluid Mechanics



## **“Fragmentation of Liquid Sheets of Emulsion”**

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**Abstract:** Sprays of emulsion are used for applications ranging from cosmetics to agriculture. Understanding the governing principles of emulsion fragmentation allows for the design of sprays with desired characteristics, such as droplet size. Sprays are formed when liquid sheets and ligaments break up into droplets. The composition of a liquid sheet is known to affect its destabilization. In this study, we investigate the destabilization of liquid sheets of emulsion. We vary the viscosity of the dispersed phase and alter surfactant concentrations to vary the spreading parameter. Using high-speed imaging, we capture the expansion and fragmentation of single-drop impacts of emulsions on a small surface. We show that viscous and interfacial stresses compete and lead to complex fragmentation dynamics.



**Fall 2024 CEA FM Seminar Series**

**August 30, 2024 ✦ 3:00 PM ✦ Gilman 132**