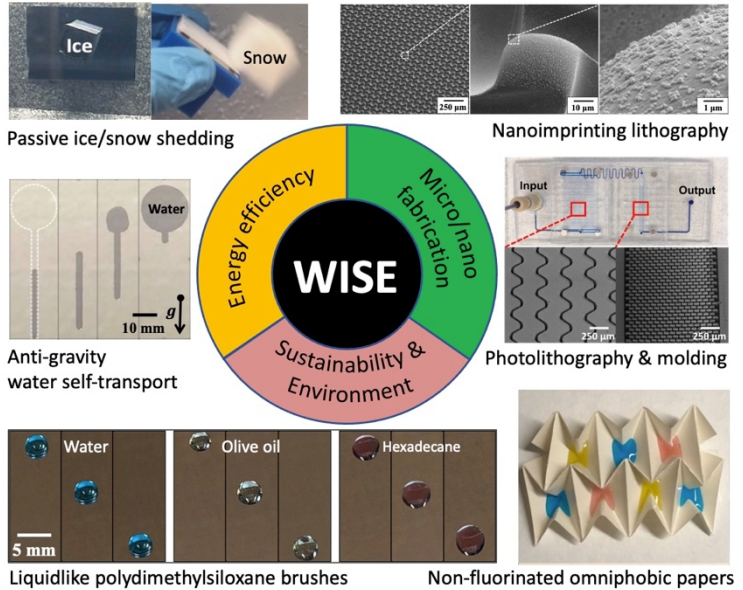


# Wettability & Interfacial Surface Engineering Laboratory

Leadership:

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Wettability and Interfacial Surface Engineering (WISE) laboratory’s research goal is to understand the fundamental physicochemical mechanics of liquid-solid and solid-solid interfaces for designing materials with desirable surface properties and functionalities. Our interdisciplinary research lab encompasses the disciplines of mechanical engineering, material science, chemistry, and biomedical engineering. The first theme of our research is energy efficiency, focusing on the design of anti-adhesive or frictionless materials to reduce energy consumption and enhance efficiency. The second theme is micro/nanomanufacturing, incorporating the synergistic effect of various embossing/photolithography methods and surface modification/patterning techniques. The third theme is sustainability & environment, specifically targeting the replacements for the “forever chemicals”, or per- and poly-fluoroalkyl substances (PFAS). Our research lab will focus on implementing surface engineering across broad applications in energy-efficient materials, manufacturing, and sustainability.