



Showcasing research from Professor Reza Rizvi's laboratory formerly at the University of Toledo, OH, USA, and now at York University, Toronto, Canada.

Advanced functional surfaces through controlled damage and instabilities

Traditionally, advanced functional surfaces have been produced through conventional methods of manufacturing such as photolithography, hot embossing, and laser ablation, which are generally very complex and costly. Likewise, it has been shown that using "nuisance" material damage or instabilities in an organized manner can result in the generation of value-added surface functionalities. In this review, three major counter-intuitive mechanisms of creating such surfaces are discussed, which are surface-scale damage, severe material damage and surface instabilities. The inspiring mechanisms presented can solve engineering problems in micro-/nanoscale surface patterning, sensors, ice-traction, and icephobic surfaces applications.

As featured in:



See Navid Namdari, Reza Mohammadi, Hossein Sojoudi, Hadi Ghasemi, Reza Rizvi *et al.*, *Mater. Horiz.*, 2020, 7, 366.