

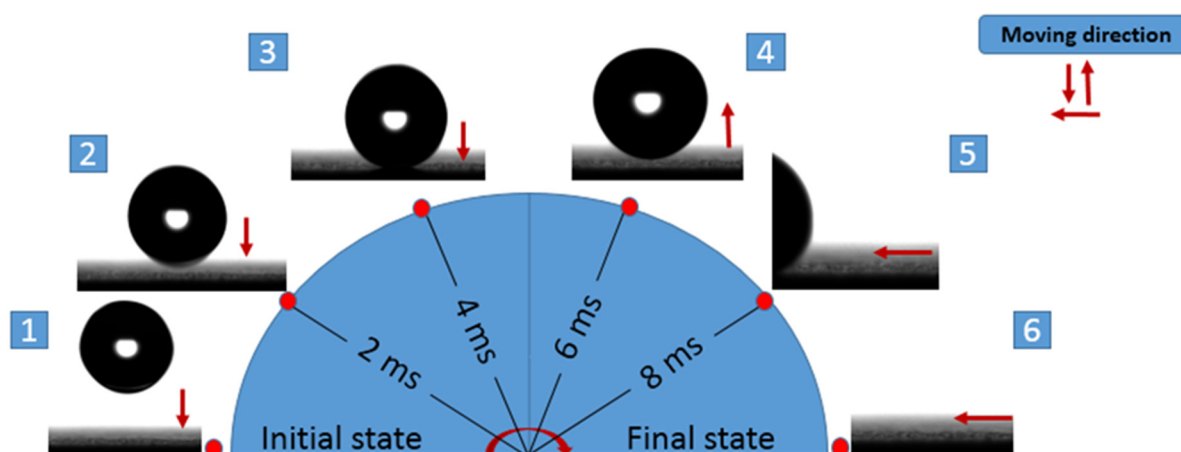
# Anticorrosion Superhydrophobic Surfaces on AA6082 Aluminum Alloy by HF/HCl Texturing and Self-Assembling of Silane Monolayer

Amani Khaskhoussi \*, Luigi Calabrese \* and Edoardo Proverbio

Department of Engineering, University of Messina, Contrada di Dio Sant'Agata, 98166 Messina, Italy

\* Correspondence: amani.khaskhoussi@unime.it (A.K.); lcalabrese@unime.it (L.C.)

On the surface of A\_FS20 sample, the water droplets roll off immediately without any adhesion and without tilting, showing excellent water repellency ( $WCA = 180^\circ$ ,  $WSA = 0$ ). The Figure S1 shows time-steps of the free-falling process of the water droplet on the surface of the sample having  $WCA = 180^\circ$  and  $WSA = 0^\circ$ . The initial state (1) revealed the distance between the water droplet and the Al treated substrate. In fact, the droplet shows a natural appearance due to the self-gravity. After 2 ms, the water droplet fell down (2) and hit the substrate at the speed of  $500 \text{ mm}\cdot\text{s}^{-1}$  after 4 ms (3). Subsequently, the water droplet fully rebounded upward (4) and elastically bounced one time before rolling off the Al treated substrate without any residual water.



**Figure S1.** (1)–(6) corresponding to the sequence of snapshots of droplets (5 µL) in the surface of A\_FS20.