UNIVERSITY OF LIVERPOOL

Powered by: IN-PART

SHARP: Novel Super Hydrophobic Polymers

A spray-coating method to fabricate a pigmented self-cleaning, superhydrophobic coating with UV resistance, and high mechanical stability.

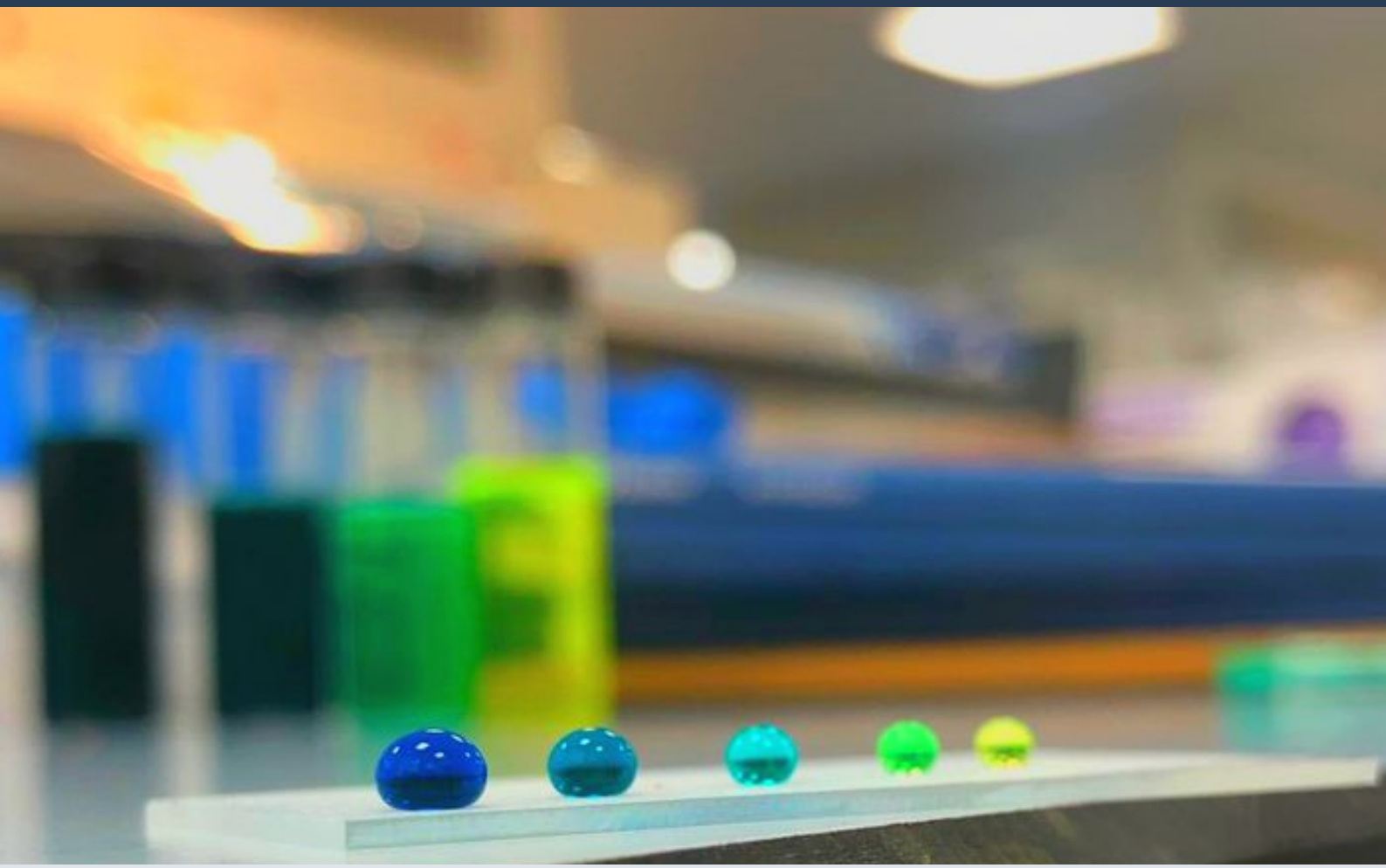

Image source: university

Seeking

Development partner

About **University of Liverpool**

By facilitating access to our expertise, facilities and networks, the University of Liverpool offers the means to transform ideas into creative solutions, improved performance, new technologies, strategies, applications, products or skills.

Background

Superhydrophobic coatings have a range of applications in fields such as electronics, textiles, and anti-fouling, anti-corrosive and self-cleaning surfaces. And in many of these demand is growing. Recently, for example, there's been a growing demand for self-cleaning surfaces, and this has sparked a surge in the development of self-cleaning coatings. Self-cleaning technology has huge commercial potential, and could be implemented across a wide range of areas: anti-fouling paints, window glass, concrete, and textiles, in addition to others. Self-cleaning functionality is most commonly achieved through the addition of a superhydrophobic coating. These materials operate through an inherent repulsion of water and waterborne components, but also the imposed rolling of water droplets that picks up and carries away surface contamination.

Currently used superhydrophobic coatings are often susceptible to photo-degradation, and have weak mechanical durability when integrated into real-world applications. Environmentally induced change to surface wettability is therefore a major problem for superhydrophobic materials.

Tech Overview

Researchers at the University of Liverpool have developed and patented a simple and low-cost spray-coating method to fabricate a pigmented self-cleaning superhydrophobic coating with excellent UV resistance, and high mechanical stability. In addition, this development demonstrates tremendous versatility, with materials that can be tailored to specific application areas and expected tolerances.

Benefits

This technology has a number of key benefits:

- Antimicrobial
- Robust
- UV Resilience
- Mechanically Resilient
- Antimisting (condensation prevention)
- Drag reducing (with respect to water flow)

Opportunity

This coating has been tested under a range of conditions and shows properties consistently better than the current standard. The researchers are now looking for a partner to help them complete the development of this technology and take it to market.

Patents

- Patent pending