# Article information:

3D-printed bionic superhydrophobic surface with petal-like microstructures for droplet manipulation, oil-water separation, and drag reduction - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0264127522003872>

# Article summary:

1. A 3D-printed biomimetic superhydrophobic surface with petal-like microstructures inspired by the droplet pinning effect of nepenthes peristome is proposed.

2. Parameters such as petal number, spacing distance between adjacent structures, and proportion of petal were studied and optimized to improve water droplet bearing capacity.

3. The excellent water repellence enables the petal-like microstructured surface to be used for water droplets manipulation, oil-water separation, and captured-air drag reduction.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “3D-printed bionic superhydrophobic surface with petal-like microstructures for droplet manipulation, oil-water separation, and drag reduction” is a well written and comprehensive article that provides an in depth look at the design and fabrication of a novel 3D printed biomimetic superhydrophobic surface with petal-like microstructures inspired by the water pinning effect of nepenthes peristome. The article is well researched and provides detailed information on the parameters studied and optimized to improve water droplet bearing capacity as well as potential applications for this new technology.

The article does not appear to have any biases or one sided reporting as it presents both sides of the argument equally. It also does not contain any unsupported claims or missing points of consideration as all claims are backed up by evidence from experiments conducted by the authors. Furthermore, there are no unexplored counterarguments or promotional content present in the article which could lead to partiality or misrepresentation of facts. The article also mentions possible risks associated with this technology which is commendable as it allows readers to make an informed decision about its use.

In conclusion, this article is reliable and trustworthy due to its comprehensive coverage of the topic at hand and lack of bias or one sided reporting.

# Topics for further research:

* 3D printing applications
* Superhydrophobic surfaces
* Biomimetic design
* Droplet manipulation
* Oil-water separation
* Drag reduction technology

# Report location:

<https://www.fullpicture.app/item/a7d769def20e04e3f5e865bd0cd9f7a6>