

Fabrication Approach to Impart Anti-Wetting Properties

A fabrication approach to impart anti-wetting properties to various surfaces by changing the surface physical structures, chemical structures, or both.

Georgia Tech inventors have developed a novel fabrication approach to impart anti-wetting properties to various surfaces by changing the surface physical structures, chemical structures, or both. The general approach takes advantage of and accentuates the intrinsic hierarchical structure of specific materials. As a result, the process is capable of maintaining the mechanical integrity of the material after modification. Currently, this process has been applied to paper, wood, fabrics, and stainless steel surfaces. More specifically, when an electrochemical process is used to alter stainless steel surfaces, it has demonstrated the ability to kill bacteria without the use of antibiotics or chemical additives.

Summary Bullets

- Does not employ particles to control wetting
- Approach can be used to modify any material surface
- Cost-effective

Solution Advantages

- Does not employ particles to control wetting
- Approach can be used to modify any material surface
- Cost-effective
- Wide range of applications

Potential Commercial Applications

- Paper-based packaging and manufacturing
- Fiber-based water and oil repellant surfaces
- Stainless steel vessels
- Implantable medical devices- killing bacteria

Inventors

- Dr. Dennis Hess
Professor and Thomas C. DeLoach, Jr. Chair - Georgia Tech School of Chemical and Biomolecular Engineering
- Dr. Laurens Breedveld
Associate Chair for Undergraduate Studies, Associate Professor and Frank Dennis Faculty Fellow - Georgia Tech School of Chemical and Biomolecular Engineering
- Nikhil Raj
Graduate Research Assistant – Chemical and Biomolecular Engineering

IP Status

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Publications

[Nanotexturing Creates Bacteria-Killing Spikes on Stainless Steel Surfaces](#), Georgia Tech News Center - December 12, 2017

Images

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