

PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A

MATHEMATICAL, PHYSICAL AND ENGINEERING SCIENCES

Bioinspired hierarchically structured surfaces for green science

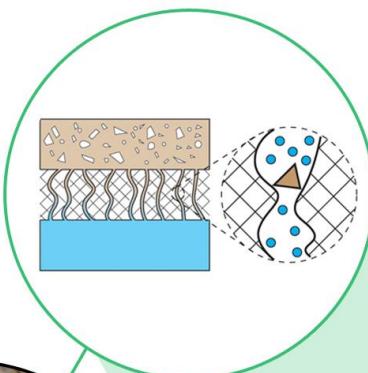
A theme issue compiled and edited by Bharat Bhushan

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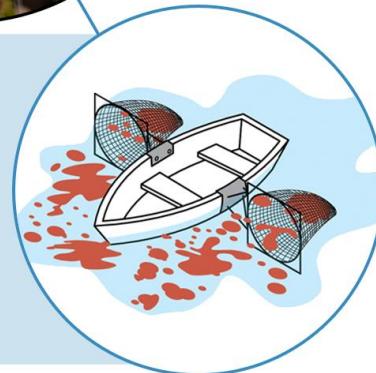
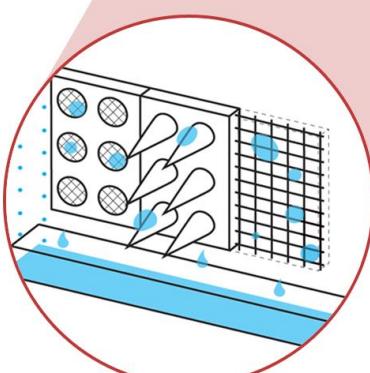
Collection



Purification



Bioinspired materials
for water supply and
management



Separation from oil

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About this issue

Biomimetics is a highly interdisciplinary field that copies elements of biology. It involves understanding biological functions, structures, and principles of various natural objects by biologists, physicists, chemists, material scientists, and even artists and architects. Biological materials are highly organized at all scales, often in a hierarchical manner with intricate functional elements resulting from a complex interplay between surface structure and morphology, and physical and chemical properties. This issue focuses on super-liquiphobic, super-liquiphilic, and low-drag surfaces. In addition, a comprehensive review of bioinspired surfaces for water supply and management is introduced. Water stress, scarcity, and portability are significant global concerns, and bioinspired surfaces may hold a key to alleviating these concerns. All papers have an overview along with new research data and future outlook to identify where the field is going. For the first time in a journal, such comprehensive reviews, as well as new information, is available in one place for both experts and others new to the field, as well as those who are not active in the field, but may contribute significantly. It will serve as a resource for practitioners and society at large.

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The Royal Society

6 – 9 Carlton House Terrace

London

SW1Y 5AG

T +44 20 7451 2500

W royalsociety.org

E philtransa@royalsociety.org

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