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Collana	Biological and Medical Physics, Biomedical Engineering, , 1618-7210
Disciplina	574.011
Soggetti	Biophysics Nanotechnology Surfaces (Physics) Interfaces (Physical sciences) Thin films Tribology Corrosion and anti-corrosives Coatings Materials—Surfaces Biological and Medical Physics, Biophysics Surface and Interface Science, Thin Films Tribology, Corrosion and Coatings Surfaces and Interfaces, Thin Films
Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- Roughness-Induced Superomniphobic Surfaces: Lessons from Nature -- Modeling of Contact Angle for a Liquid in Contact with a Rough Surface -- Lotus Effect Surfaces in Nature -- Fabrication Techniques used for Structures with Superhydrophobicity, Self-Cleaning, Low Adhesion/Low Drag with Antifouling Properties -- Fabrication and Characterization of Micro-, Nano- and Hierarchical Structured Surfaces -- Fabrication and Characterization of Micropatterned Structures Inspired by Salvinia Molesta --

Characterization of Rose Petals and Fabrication and Characterization of Superhydrophobic Surfaces with High and Low Adhesion -- Modeling, Fabrication and Characterization of Oleophobic/philic Surfaces -- Shark-Skin Surface for Fluid-Drag Reduction in Turbulent Flow -- Gecko Adhesion -- Outlook.

Sommario/riassunto

This revised, updated and expanded new edition presents an overview of biomimetics and biologically inspired structured surfaces. It deals with various examples of biomimetics which include surfaces with roughness-induced superomniphobicity, self-cleaning, antifouling, and controlled adhesion. The focus in the book is on the Lotus Effect, Salvinia Effect, Rose Petal Effect, Oleophobic/philic Surfaces, Shark Skin Effect, and Gecko Adhesion. This new edition also contains new chapters on the butterfly wing effect, bio- and inorganic fouling and structure and Properties of Nacre and structural coloration.
