

1. Record Nr.	UNINA9910720071303321
Titolo	Two-dimensional materials for environmental applications // edited by Neeraj Kumar, Rashi Gusain, and Suprakas Sinha Ray
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2023] ©2023
ISBN	9783031287565 9783031287558
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (454 pages)
Collana	Springer Series in Materials Science, , 2196-2812 ; ; 332
Disciplina	730
Soggetti	Nanostructured materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	MXenes: An emerging class of materials for environmental remediation -- Application of MXenes in Water Purification, CO2 Capture and Conversion -- Inorganic Analogues of Graphene and Their Nanocomposites for Wastewater Treatment -- Graphitic Carbon Nitride (g-C3N4)-based Photocatalysts for Environmental Applications -- Antibacterial Properties of Two-Dimensional Nanomaterials -- Graphene-Based Photocatalysts for the Elimination of Pollutants in Water -- Adsorptive Removal of Pollutants Using Graphene-Based Materials for Water Purification -- Fabrication of Advanced 2D Nanomaterials Membranes for Desalination and Wastewater Treatment -- Development of 2D Nanomaterials-based Sensors for Detection of Toxic Environmental Pollutants -- 2D Nanomaterial Photoelectrodes for Photoelectrochemical Degradation of Pollutants and Hydrogen Generation -- Advances in 2D MOFs for Environmental Applications -- Applications of MoS2 Nanostructures in Wastewater Treatment -- Two-Dimensional Metals and Metal Oxides-based Photocatalysts for Solar CO2 Conversion -- Nanoengineered 2D Materials for CO2 Capture.
Sommario/riassunto	This book focuses on recent developments in the field of two-dimensional nanomaterials for environmental applications. Due to their high surface area and tunable surface chemistry, two-dimensional nanomaterials are currently garnering great interest for environmental remediation applications. This book compiles contributed chapters

from active international researchers dealing with the development of state-of-the-art two-dimensional nanomaterials in environmental applications such as water and wastewater treatment, adsorption, photocatalysis, membrane separation, desalination, deionization, environmental pollutants sensing/detection, carbon-dioxide capture and catalytic conversion, microbial treatment, and electrochemical remediation. Each chapter provides an essential and comprehensive overview of the recent advances in material development and application, giving special attention to preparation methods, tuning of physiochemical properties, surface and interface chemistry, structural porosity, assemblies integration for fabrication of devices, and their relationship with overall efficiency. It offers a valuable reference guide for environmental and materials scientists, engineers, and policymakers working towards environmental sustainability.

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