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Nota di contenuto	Membranes with selective laminar nanochannels of modified reduced graphene oxide for water purification -- Graphene oxide (GO) enhanced polyamide (PA) thin-film nanocomposite (TFN) membrane for water purification -- Graphene oxide–silver nanoparticle membrane for biofouling control and water purification -- Rapid dehalogenation of pesticides and organics at the interface of reduced graphene oxide–silver nanocomposite -- Magnetic MnFe2O4–graphene hybrid composite for efficient removal of glyphosate from water -- Synthesis

of flower-like TiO2 microsphere/graphene composite for removal of organic dye from water -- Europium doped magnetic graphene oxide-MWCNT nanohybrid for estimation and removal of arsenate and arsenite from real water samples -- Photocatalytic degradation of acid blue 74 in water using Ag–Ag2O–Zno nanostuctures anchored on graphene oxide -- Graphene-wrapped Ag3PO4/LaCO3OH heterostructures for water purification under visible light -- Improvement of water softening efficiency in capacitive deionization by ultra purification process of reduced graphene oxide -- Development of functionalized nanostructured polymeric membranes for water purification -- Reduced graphene oxide composites with MWCNTs and single crystalline hematite nanorhombohedra for applications in water purification -- One-pot synthesis of robust superhydrophobic, functionalized graphene/polyurethane sponge for effective continuous oil–water separation -- Magnetic graphene–carbon nanotube iron nanocomposites as adsorbents and antibacterial agents for water purification.

Sommario/riassunto	This book presents a unique collection of up-to-date applications of graphene for water science. Because water is an invaluable resource and the intelligent use and maintenance of water supplies is one of the most important and crucial challenges that stand before mankind, new technologies are constantly being sought to lower the cost and footprint of processes that make use of water resources as potable water as well as water for agriculture and industry, which are always in desperate demand. Much research is focused on graphene for different water treatment uses. Graphene, whose discovery won the 2010 Nobel Prize in physics, has been a shining star in the material science in the past few years. Owing to its interesting electrical, optical, mechanical and chemical properties, graphene has found potential applications in a wide range of areas, including water purification technology. A new type of graphene-based filter could be the key to managing the global water crisis. According to the World Economic Forum's Global Risks Report, lack of access to safe, clean water is the biggest risk to society over the coming decade. Yet some of these risks could be mitigated by the development of this filter, which is so strong and stable that it can be used for extended periods in the harshest corrosive environments, and with less maintenance than other filters on the market. The graphene-based filter could be used to filter chemicals, viruses, or bacteria from a range of liquids. It could be used to purify water, dairy products or wine, or in the production of pharmaceuticals. This book provides practical information to all those who are involved in this field. .