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Altri autori (Persone)	SinghKshitij Rb VermaRanjana Pratap SinghRavindra
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Nota di contenuto	Chapter 1. MXenes: An Overview for Future Utility in the Energy Storage and Conversion -- Chapter 2. Preparation Methods, Functionalization, and Physicochemical Properties of MXenes -- Chapter 3. Mechanistic Approaches of Nanostructured MXenes for Energy Storage Applications -- Chapter 4. Role of MXenes toward enzymatic biofuel and biofuel cell design -- Chapter 5. Potentialities of MXenes and its Hybrid Materials for Hydrogen Storage -- Chapter 6. Utility of MXenes and its Hybrid Materials for Batteries -- Chapter 7. MXene-Based Materials for Photocatalytic Water Splitting -- Chapter 8. Potentialities of MXenes and MXene-Based Materials for Supercapacitor Applications -- Chapter 9. Utility of MXenes for Catalysis, Electrocatalysis, and Fuel Cells -- Chapter 10. Technological Aspects of MXenes: Current Challenges and Future Perspectives.
Sommario/riassunto	The book covers fundamental aspects, explores the synthesis,

composition, and various properties of this next-generation 2D material, and provides an account of the processing and development of MXenes and MXene-based composites. This book stands out as a unique contribution, focusing on two major aspects: fundamentals and energy storage applications. It thoroughly examines notable findings and technological challenges in detail. The aim is to bridge the knowledge gap in materials science, nanotechnology, and energy storage devices. The book discusses recent developments in MXenes and MXene-based composites for energy storage, including applications in supercapacitors, hybrid-ion capacitors, batteries, point-of-care devices, hydrogen storage, nanoelectronics, catalysis, electro/photocatalysis, and biofuel devices. This book provides a complete set of knowledge about 2D materials, specifically MXenes. The book serves as an excellent reference for researchers, scientists, and engineers. Moreover, it serves as a useful guide for undergraduate, postgraduate, and Ph.D. students, as well as academicians, scientists, researchers, and industry specialists working in advanced materials science, flexible electronics, nanoelectronics, and energy storage devices.