Record Nr. UNINA9910412151803321 Autore Omran Basma A Titolo A New Era for Microbial Corrosion Mitigation Using Nanotechnology: Biocorrosion and Nanotechnology / / by Basma A. Omran, Mohamed Omar Abdel-Salam Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2020 3-030-49532-9 **ISBN** Edizione [1st ed. 2020.] 1 online resource (XVIII, 201 p. 20 illus., 16 illus. in color.) Descrizione fisica Collana Advances in Material Research and Technology, , 2662-4761 Disciplina 620.11223 Soggetti Nanotechnology Tribology Corrosion and anti-corrosives Coatings Biotechnology Tribology, Corrosion and Coatings Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Nota di contenuto Chapter 1 - Basic Corrosion Fundamentals, Aspects and Currently Applied Strategies in Corrosion Mitigation -- Chapter 2 - The Catastrophic Battle of Biofouling in Oil and Gas Facilities: Impacts, History, Involved Microorganisms, Biocides and Polymers Coatings to Combat Biofouling -- Chapter 3 - Emphasis on the Devastating Impacts of Microbial Biofilms in Oil and Gas Facilities -- Chapter 4 - Corrosion and Biofouling Mitigation Using Nanotechnology -- Chapter 5 -Biologically Fabricated Nanomaterials for Mitigation of Biofouling in Oil and Gas Industries. Sommario/riassunto This book focuses on corrosion and microbial corrosion, providing solutions for these problems by using nanotechnology and nanobiotechnology. It introduces the causes, consequences, cost and control of corrosion processes. It gives a particular emphasis on microbial corrosion of steel and other metals in oil, gas and shipping industries. The book presents the materials vulnerable to such kind of

corrosion, and focus on the use of nanotechnology to control such,

using nanomaterials as corrosion inhibitors.		