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Nota di contenuto	Antibacterial Properties of the Biodegradable 3D-Printed PCL/PLA Scaffolds with Silver Nanoparticles -- Ion Bombardment as Control Factor in Synthesis of 2D and 3D CuO Nanostructures -- Resistance to Wear During Friction with Boundary Lubrication of Cast Iron-Iron Pairing with Nanocrystalline Structure-Reinforced Surface Layers -- Two Layer Silane-Based Coatings for Paper Finishing.
Sommario/riassunto	This book reports on advances in materials engineering, with a special emphasis on applying innovative approaches in coatings and protective technologies, particularly in the synthesis of new nanostructures, multilayer coatings, and ensuring antibacterial properties. It discusses wear behaviour for ferrous and non-ferrous materials. Further chapters report on the performance properties and mechanical characterization

of composite and polymer materials for building efficiency and filtration applications. They also cover research results on cellulose, paper, and textile materials, focusing on strength properties. Yet, this book also describes innovative methods in engineering education, particularly the use of smart complexes and simulations to enhance students' competencies growth based on professional, environmental, and economic culture. Based on the 8th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2025), held on June 17-20, 2025, in Porto, Portugal, this third volume of a 4-volume set provides academics and professionals with extensive information on technologies, trends, challenges, and practice-oriented experience in all the above-mentioned areas.

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