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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Section I: Properties and Functionalities of Natural Fibres and Structures -- Fibre Science: Understanding how it works and speculating on its future -- Wool in Human Health and Well-Being -- Correlations between the physiochemical characteristics of plant fibres and their mechanical properties -- Influence of stem morphology and fibre stiffness on the loading stability of flax -- Young's modulus of plant fibres -- Characterization of Brazilian nut fibers -- Section II: New, Functional and Nano Dimensional Natural Fibres -- Brazilian Buriti Palm Fiber -- Degradation of dyes using plantain fibers modified with nanoparticles -- Removal of crude oil using a new natural fibre- Calotropis Procera -- Amazonian Tururi Palm Fiber Material -- Nanoindentation measurements of jute/polylactic acid composites -- Biomedical applications of nanocellulose -- Section III: Natural Fibre Reinforced Polymeric Composites -- A finite element analysis to validate the rule-of-mixtures for the prediction of the Young's modulus of composites with non-circular anisotropic fibres -- Effects

of water ageing on the mechanical properties of flax and glass fibre composites: Degradation and reversibility -- Processing of wet preserved natural fibers with Injection molding compounding -- Fluorination as an effective way to reduce natural fibers hydrophilicity -- DSC analysis of in-situ polymerized poly(butylene terephthalate) flax fiber reinforced composites produced by RTM -- Parametric study on the manufacturing of biocomposite materials -- Mechanical properties of flax fibre reinforced composites -- Eco-friendly flax fibre/epoxy resin composite system for surfboard production -- The use of cellulose fibre wastes to increase the mechanical behaviour of biodegradable composites for automotive interior parts -- Section IV: Natural Fibre Reinforced Cementitious Composites -- Hemp fibres - A promising reinforcement for cementitious materials -- Tensile and bond characterization of natural fibers embedded in cementitious matrices -- Eco-efficient earthen plasters: The influence of the addition of natural fibers -- Section V: Innovative Applications of Natural Fibres -- Polylactic acid fibre based biodegradable stents and their functionalization techniques -- Optimization of a wood plastic composite to produce a new dynamic shading system -- Biodegradation of wool used for the production of innovative geotextiles designed to erosion control -- Renewable materials for stab resistance -- Hemp fibres from crops grown on reclaimed land for the production of sanitary mats -- Section VI: Market, Opportunities, Recycling and Sustainability Aspects of Natural Fibres -- Natural Fibres and the World Economy -- Wool as an heirloom: How natural fibres can reinvent value in terms of money, life-span and love -- Hemp cultivation opportunities and perspectives in Lithuania -- Review of wool recycling and reuse -- Brazilian scope of management and recycling of textile wastes -- Cotton dyeing with extract from renewable agro industrial bio-resources: A step towards sustainability.

Sommario/riassunto

This book collects selected high quality articles submitted to the 2nd International Conference on Natural Fibers (ICNF2015). A wide range of topics is covered related to various aspects of natural fibres such as agriculture, extraction and processing, surface modification and functionalization, advanced structures, nano fibres, composites and nanocomposites, design and product development, applications, market potential, and environmental impact. Divided into separate sections on these various topics, the book presents the latest high quality research work addressing different approaches and techniques to improve processing, performance, functionalities and cost-effectiveness of natural fibre and natural based products, in order to promote their applications in various advanced technical sectors. This book is a useful source of information for materials scientists, teachers and students from various disciplines as well as for R& D staff in industries using natural fibre based materials. .
