1. Record Nr. UNINA9910299855303321

Titolo	Biotechnologies and Biomimetics for Civil Engineering / / edited by Fernando Pacheco Torgal, J. A. Labrincha, M. V. Diamanti, C.-P. Yu, H. K. Lee
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-09287-1
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (441 p.)
Disciplina	628 660.6
Soggetti	Building materials Energy efficiency Environmental engineering Biotechnology Building Materials Energy Efficiency Environmental Engineering/Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1 -- Introduction to biotechnologies and biomimetics for civil engineering 2 -- Basics of construction microbial biotechnology 3 -- General aspects of biomimetic materials 4 -- Bioinspired design for climate change 5 -- Bioinspired building facades 6 -- A green building envelope: a crucial contribution to biophilic cities 7 -- Architectural bio-photo reactors: harvesting micro-algae on the surface of architecture 8 -- Reducing indoor air pollutants through biotechnology 9 -- Bio-inspired self-cleaning materials 10 -- Bio-Inspired strategy for developing innovative bridges 11 -- Bioinspired sensors for structural health monitoring 12 -- Bioinspired flexible construction materials 13 -- Bioinspired concrete 14 -- Production of bacteria for structural concrete 15 -- Bacteria for concrete surface treatment 16 -- Bacteria for surface treatment of normal and lightweight concrete: A case study 17 -- Biotechnological aspects of soil decontamination 18

-- Microbial fuel cells for water treatment.

Sommario/riassunto

Putting forward an innovative approach to solving current technological problems faced by human society, this book encompasses a holistic way of perceiving the potential of natural systems. Nature has developed several materials and processes which both maintain an optimal performance and are also totally biodegradable, properties which can be used in civil engineering. Delivering the latest research findings to building industry professionals and other practitioners, as well as containing information useful to the public, ‘Biotechnologies and Biomimetics for Civil Engineering’ serves as an important tool to tackle the challenges of a more sustainable construction industry and the future of buildings.