1. Record Nr. UNINA9910639996703321

Autore	Carvalho Violeta
Titolo	Micro/Nanofluidic and Lab-on-a-Chip Devices for Biomedical Applications
Pubbl/distr/stampa	Basel, : MDPI - Multidisciplinary Digital Publishing Institute, 2022
ISBN	3-0365-6099-8
Descrizione fisica	1 electronic resource (232 p.)
Soggetti	Medicine
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Recently, microfluidic, nanofluidic and lab-on-a-chip devices have gained particular attention in biomedical applications. Due to their advantages, such as miniaturization, versatility, ease of use, cost-effectiveness, and the potential to replace animal models for drug development and testing, these devices hold tremendous potential to revolutionize the research of more effective treatments for several diseases that threaten human life. With integrated biosensors, these devices allow the development and design of micro- and nanoparticles to be studied in detail, modelling human physiology, investigating the molecular and cellular mechanisms underlying disease formation and progression, and gaining insights into the performance and long-term effects of responsive drug delivery nanocarriers. This Special Issue gathered research papers, and review articles focusing on novel microfluidic, nanofluidic and lab-on-a-chip devices for biomedical applications, addressing all steps related to fabrication, biosensor integration and development, characterization, numerical simulations and validation of the devices, optimization and, the translation of these devices from research labs to industry settings.

2. Record Nr. UNINA9910580204403321

Autore	Minelli Fausto
Titolo	Innovative Structural Applications of High Performance Concrete Materials in Sustainable Construction
Pubbl/distr/stampa	Basel, : MDPI - Multidisciplinary Digital Publishing Institute, 2022
Descrizione fisica	1 online resource (206 p.)
Soggetti	History of engineering and technology Technology: general issues
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Sommario/riassunto

Concrete is the most widely utilized construction material in the world. Thus, any action intended to enhance the sustainability of the construction industry must consider the supply chain, production, distribution demolition and eventual disposal, landfilling or recycling of this composite material. High-performance concrete may be one of the most effective options to make the construction sector more sustainable. Experience proves that the use of recycled concrete aggregates, as well as the partial replacement of ordinary Portland cement with other supplementary cementitious materials or alternative binders, are generally accepted as the most realistic solutions to reduce the environmental impacts, leading to sufficiently high mechanical performances. In structural applications such as those concerning the seismic and energy retrofitting of existing buildings, the use of high-performance cementitious composites often represents the more cost-effective solution, which allows us to minimize the costs of the intervention and the environmental impact. Eventually, the challenge of enhancing sustainability by raising durability of concrete structures is particularly relevant in those applications where maintenance is particularly expensive and impactful, in terms of both direct intervention costs and indirect costs deriving from downtime. The present Special Issue aims at providing readers with the most recent

research results on the aforementioned subjects and further foster a collaboration between the scientific community and the industrial sector on a common commitment towards sustainable concrete constructions.