1. Record Nr. UNINA9910815317203321

Titolo	Nanomaterials for 2D and 3D printing / / edited by Shlomo Magdassi and Alexander Kamyshny
Pubbl/distr/stampa	Weinheim, Germany : , : Wiley-VCH, , 2017 ©2017
ISBN	3-527-68580-4 3-527-68579-0
Descrizione fisica	1 online resource (437 pages) : color illustrations, photographs
Collana	THEi Wiley ebooks
Disciplina	620.5
Soggetti	Nanostructured materials Digital printing Three-dimensional printing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Printing technologies for nanomaterials / Robert Abbel and Erwin R. Meinders -- Inkjet printing of functional materials and post-processing / Ingo Reinhold -- Electroless plating and printing technologies / Yosi Shacham-Diamond, Yelena Sverdlov, Stav Friedberg and Avi Yaverboim -- Reactive inkjet printing as a tool for in situ synthesis of self-assembled nanoparticles / Ghassan Jabbour, Multalifu Abulikamu, Hyung W. Choi, and Hanna Haverinen -- 3D printing via multiphoton polymerization / Maria Farsari -- High speed sintering the next generation of manufacturing / Adam Ellis -- Metallic nanoinks for inkjet printing of conductive 2D and 3D structures / Alexander Kamyshny and Shlomo Magdassi -- Graphene-and 2D material-based thin-film printing / Jiantong Li, Max C. Lemme, and Mikael Ostling -- Inkjet printing of photonic crystals / Minxuan Kuang and Yanlin Song -- Printable semiconducting/dielectric materials for printed electronics / Sunho Jeong and Jooho Moon -- Low meting point metal or its nanocomponents as functional 3D printing inks / Lei Wang and Jing Lui -- Inkjet printing of conducting polymer nanomaterials / Edward Song and Jin-Woo Choi -- Application of printed silver nanowires based on laser-induced forward transfer / Teppei Araki, Rajesh

	Mandamparambil, Jinting Jiu, Tsuyoshi Sekitani, and Katsuaki Suganuma -- Inkjet printing of functional polymers into carbon fiber composites / Patrick J. Smith, Elliot J. Flet and Yi Zhang -- Inket-printable nanomaterials and nanocomposites for sensor fabrication / Niamh T. Brannelly and Anthony J. Killard -- Electrochromics for printed displays and smart windows / Pooi See Lee, Guofa Cai, Alice K.-S. Eh, and Oeter Darmawan.
Sommario/riassunto	"The first book to paint a complete picture of the challenges of processing functional nanomaterials for printed electronics devices and additive manufacturing fabrication processes. Following an introduction to printed electronics, the book focuses on various functional nanomaterials available, including conducting, semi-conducting, dielectric, polymeric, ceramic and tailored nanomaterials. Subsequent sections cover the preparation and characterization of such materials along with their formulation and preparation as inkjet inks, as well as a selection of applications. These include printed interconnects, passive and active modules, as well as such high-tech devices as solar cells, transparent electrodes, displays, touch screens, sensors, RFID tags and 3D objects. The book concludes with a look at the future for printed nanomaterials. For all those working in the field of printed electronics, from entrants to specialized researchers, in a number of disciplines ranging from chenistry and materials science to engineering and manufacturing, in both academia and industry."--