Record Nr. UNINA9910337641903321 Autore Nag Anindya Titolo Printed Flexible Sensors [[electronic resource]]: Fabrication, Characterization and Implementation / / by Anindya Nag, Subhas Chandra Mukhopadhyay, Jurgen Kosel Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2019 3-030-13765-1 ISBN Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (205 pages) Collana Smart Sensors, Measurement and Instrumentation, , 2194-8402;; 33 Disciplina 530.82 Soggetti Electronics Microelectronics Spectroscopy Microscopy Optical materials Electronic materials Electronics and Microelectronics, Instrumentation Spectroscopy and Microscopy Optical and Electronic Materials Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Introduction -- Literature review -- Interdigitated Sensing and Nota di contenuto Electrochemical Impedance Spectroscopy -- Carbon Nanotubes-Polydimethylsiloxane Sensor -- Aluminium-Polyethylene Terephthalate Sensor -- Graphite-Polyimide Sensor -- Graphite-Polydimethylsiloxane Sensor -- Conclusion, Challenges and Future Work. Sommario/riassunto This book presents recent advances in the design, fabrication and implementation of flexible printed sensors. It explores a range of materials for developing the electrode and substrate parts of the sensors, on the basis of their electrical and mechanical characteristics. The sensors were processed using laser cutting and 3D printing techniques, and the sensors developed were employed in a number of healthcare, environmental and industrial applications, including:

monitoring of physiological movements, respiration, salinity and nitrate

measurement, and tactile sensing. The type of sensor selected for each application depended on its dimensions, robustness and sensitivity. The sensors fabricated were also embedded in an IoT-based system, allowing them to be integrated into real-time applications.