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Titolo	Single Molecule Sensing Beyond Fluorescence // edited by Warwick Bowen, Frank Vollmer, Reuven Gordon
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Collana	Nanostructure Science and Technology, , 2197-7976
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I Optical Sensing -- Interferometric Biosensing -- Optoplasmonic Whispering Gallery Mode Sensors for Single Molecule Characterization: A Practical Guide -- Nonlinear Optical Microcavities Towards Single-Molecule Sensing -- Part II Optomechanical Sensing -- Optomechanical Sensing -- Quantum Optical Theories of Molecular Optomechanics -- Part III Biomolecular Manipulation -- Dielectrophoresis of Single Molecules -- Optical Trapping of Single Molecules -- Applications of Trapping to Protein Analysis and Interactions -- Towards Single-Molecule Chiral Sensing and Separation -- Part IV Nanopores -- Experimental Approaches to Solid-State Nanopores -- Challenges in Protein Sequencing using 2-D MoS2 Nanopores -- Single-molecule Ionic and Optical Sensing with Nanoapertures -- Self-induced Back-action Actuated Nanopore Electrophoresis (SANE) sensing.
Sommario/riassunto	This book provides an interesting snapshot of recent advances in the

field of single molecule nanosensing. The ability to sense single molecules, and to precisely monitor and control their motion is crucial to build a microscopic understanding of key processes in nature, from protein folding to chemical reactions. Recently a range of new techniques have been developed that allow single molecule sensing and control without the use of fluorescent labels. This volume provides an overview of recent advances that take advantage of micro- and nanoscale sensing technologies and provide the prospect for rapid future progress. The book endeavors to provide basic introductions to key techniques, recent research highlights, and an outlook on big challenges in the field and where it will go in future. It is a valuable contribution to the field of single molecule nanosensing and it will be of great interest to graduates and researchers working in this topic.
