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Nota di contenuto	Part 1: RNA Binding Proteins -- Chapter 1: How proteins recognize RNA -- Chapter 2: The interaction between L7Ae family of proteins and RNA kink turns -- Chapter 3: Evolving methods in defining the role of RNA in RNP assembly -- Chapter 4: Single-molecule studies of exonuclease: Following cleavage actions one step at a time -- Chapter 5: Fitting in the age of single-molecule experiments: A guide to maximum-likelihood estimation and its advantages -- Part II: Transcription and Translation -- Chapter 6: A single-molecule view on cellular and viral RNA synthesis -- Chapter 7: Single-Molecule Optical Tweezers Studies of Translation -- Part III: RNA-Guided Protein Machineries -- Chapter 8: Biophysical and biochemical approaches in the analysis of Argonaute-miRNA complexes -- Chapter 9: Biophysics of RNA-guided CRISPR immunity -- Chapter 10: Dynamics of MicroRNA Biogenesis.
Sommario/riassunto	RNA molecules play key roles in all aspects of cellular life, but to do so efficiently, they must work in synergism with proteins. This book addresses how proteins and RNA interact to carry out biological

functions such as protein synthesis, regulation of gene expression, genome defense, liquid phase separation and more. The topics addressed in this volume will appeal to researchers in biophysics, biochemistry and structural biology. The book is a useful resource for anybody interested in elucidating the molecular mechanisms and discrete properties of RNA-protein complexes. Included are reviews of key systems such as microRNA and CRISPR/Cas that exemplify how RNA and proteins work together to perform their biological function. Also covered are techniques ranging from single molecule fluorescence and force spectroscopy to crystallography, cryo-EM microscopy, and kinetic modeling.