

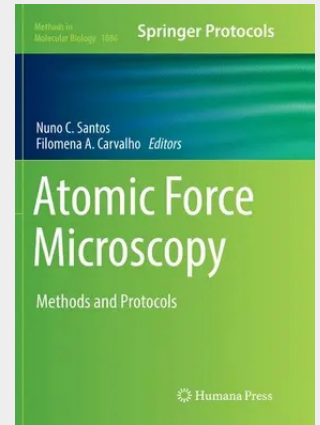
Atomic Force Microscopy

Methods and Protocols

This book aims to provide examples of applications of atomic force microscopy (AFM) using biological samples, showing different methods for AFM sample preparation, data acquisition and processing, and avoiding technical problems. Divided into two sections, chapters guide readers through image artifacts, process and quantitatively analyze AFM images, lipid bilayers, image DNA-protein complexes, AFM cell topography, single-molecule force spectroscopy, single-molecule dynamic force spectroscopy, fluorescence methodologies, molecular recognition force spectroscopy, biomechanical characterization, AFM-based biosensor setup, and detail how to implement such an *in vitro* system, which can monitor cardiac electrophysiology, intracellular calcium dynamics, and single cell mechanics. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

Authoritative and cutting-edge, *Atomic Force Microscopy: Methods and Protocols* is useful for researchers at different stages, from newcomers to experienced users, interested in new AFM applications.

This book aims to provide examples of applications of atomic force microscopy (AFM) using biological samples, showing different methods for AFM sample preparation, data acquisition and processing, and avoiding technical problems. Divided into two sections, chapters guide readers through image artifacts, process and quantitatively analyze AFM images, lipid bilayers, image DNA-protein complexes, AFM cell topography, single-molecule force spectroscopy, single-molecule dynamic force spectroscopy, fluorescence methodologies, molecular recognition force spectroscopy, biomechanical characterization, AFM-based biosensor setup, and detail how to implement such an *in vitro* system, which can monitor cardiac electrophysiology, intracellular calcium dynamics, and single cell mechanics. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and cutting-edge, *Atomic Force Microscopy: Methods and Protocols* is useful for researchers at different stages, from newcomers to experienced users, interested in new AFM applications.



139,09 €

129,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9781493994076

Medium: Buch

ISBN: 978-1-4939-9407-6

Verlag: Springer

Erscheinungstermin: 10.12.2019

Sprache(n): Englisch

Auflage: Softcover Nachdruck of the original 1. Auflage 2019

Serie: Methods in Molecular Biology

Produktform: Kartoniert

Gewicht: 728 g

Seiten: 372

Format (B x H): 178 x 254 mm

