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Edizione	[Second edition.]
Descrizione fisica	1 online resource (292 pages)
Collana	Micro & nano technologies series
Disciplina	629.8932
Soggetti	Microrobots Bioengineering
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Formato	Materiale a stampa
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- Theoretical microbiorobotics -- Biological microrobots -- Synthetic microrobots.
Sommario/riassunto	Microbiorobotics: Biologically Inspired Microscale Robotic Systems, Second Edition presents information on a new engineering discipline that takes a multidisciplinary approach to accomplish precise manipulation of microscale spaces. Microorganisms have evolved various mechanisms to thrive in microscale environments and are therefore a useful tool for use in many applications, ranging from micromanufacturing techniques, to cellular manipulation. In the context of microrobotics, biological microrobots can directly harness the microorganisms for propulsive and sensing power and synthetic microrobots can mimic the microorganisms' motions for effective locomotion. This second edition covers new advances and insights that have emerged in recent years. Several new chapters have been added on important new research areas, with existing chapters thoroughly revised. In particular, increased coverage is given to fluid dynamics of microswimmers in nature. Gives the reader an understanding of the fundamental changes in dynamics and fabrication techniques in the microenvironment Offers a unique two-pronged approach to microrobotics from a biological perspective, i.e. bioinspired engineering design of biological systems to accomplish engineering

tasks Introduces an interdisciplinary readership to the toolkit that
micro-organisms offer to micro-engineering
