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Nota di contenuto	Chapter 1. Overview of robotic reproductive cell manipulation -- Chapter 2. Automated sperm analysis -- Chapter 3. Robotic sperm immobilization -- Chapter 4. Automated picoliter-resolution sperm aspiration -- Chapter 5. Robotic orientation control of linear-shaped sperm -- Chapter 6. Robotic orientation control of spherical oocytes -- Chapter 7. Piezo drill-based minimally invasive oocyte injection -- Chapter 8. Robotic embryo characterization and manipulation -- Chapter 9. Untethered robotic manipulation of reproductive cells -- Chapter 10. Future perspectives of robotic manipulation of reproductive cells.
Sommario/riassunto	This is the first book to focus on robotic reproductive cell manipulation. It provides readers with the fundamental principles underpinning robotic manipulation of reproductive cells, including sperm, oocytes, and embryos, state-of-the-art technical advances in actuation, sensing and control for cell manipulation, and emerging automated systems for reproductive cell manipulation. The methods

presented in the book are generic and can be translated to manipulating other types of cells, such as cancer cells and cardiomyocytes. Robotic Manipulation of Reproductive Cells will be an essential reference for graduate students and researchers working on small-scale robotic systems for cell manipulation and characterization, healthcare professionals interested in nanoscale, microscale, milli-scale robotic techniques for clinical cell surgeries and assisted reproduction, and engineers developing small-scale robotic systems for biomedical engineering, biology, and medicine. Introduces the applications of robotic cell manipulation; Highlights advances in infertility diagnosis and treatment; Provides insightful outlook on future challenges and opportunities. .