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Nota di contenuto	Foreword -- Executive Summary -- Preface -- ToC -- List of Figures.- Chapter 1 -- Introduction -- Chapter 2 -- Complexity and Information: Cancer as a Multiscale Complex Adaptive System -- Chapter 3 -- Mimicking the Microenvironment -- Chapter 4.- Cancer Cell Mechanics -- Chapter 5.- Fluid Mechanics and Transport in Tumors --

Chapter 6 -- The Dynamics of Cell Motility -- Chapter 7.- Devices and New Diagnostic Principles -- Chapter 8 -- Clinical Perspective -- Appendix A. APHELION Study Panelists and Advisors -- Appendix B. Site Visit Reports - Europe -- Appendix C. Site Visit Reports - Asia -- Appendix D. Site Visit Reports - United Kingdom -- Appendix E. Site Visit Reports - Brazil -- Appendix F. Recent Conferences.

Sommario/riassunto

This book presents an Assessment of Physical Sciences and Engineering Advances in Life Sciences and Oncology (APHELION) by a panel of experts. It covers the status and trends of applying physical sciences and engineering principles to oncology research in leading laboratories and organizations in Europe and Asia. The book elaborates on the six topics identified by the panel that have the greatest potential to advance understanding and treatment of cancer, each covered by a chapter in the book. The study was sponsored by the National Cancer Institute (NCI) at the National Institute of Health (NIH), the National Science Foundation (NSF) and the National Institute of Biomedical Imaging and Bioengineering at the NIH in the US under a cooperative agreement with the World Technology Evaluation Center (WTEC).
