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Descrizione fisica	1 online resource (396 p.)
Collana	Wiley Series in Modeling and Simulation
Disciplina	610.285
Soggetti	Simulated patients Precision medicine
Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Sommario/riassunto	"Medical modeling and simulation technology is interdisciplinary and combines life and physical sciences, engineering, and medical expertise, and since it is being executed at various levels for various purposes at research and development institutions throughout the world, there exists the foremost challenge of conjoining these independent, yet complementary efforts to exploit their full potential. This is especially true with regard to the virtual human wherein there is the necessity to assimilate both the developed and developing components of the human physiome and diseaseome to advance patient care, medical practice, research and development, and education and training. This book advances personalized patient care using the virtual human and its ability to represent the human physiome (how the body functions) and diseaseome (disruptions to the body's functions). In order to achieve a holistic analysis of the body, this book provides an integrated, interoperable, i.e., complex and dynamic, examination of human biology with physiological and

behavioral components of the overall patient experience. The future of healthcare is proving to be an overwhelming challenge globally, and changing practice to provide holistic, personalized care in an expanding (longer-lived and growing population) and demanding (multiple pathologies and needs per individual patient) environment requires optimizing research, technology, and training. Clinicians must exploit new generation capabilities in diagnostic and therapeutic patient care for the burden of patient needs to be met. Medical technology is very near to providing safe and effective personalized patient care through the use of virtual human technology, and via simulation, clinicians receive a virtual patient in real-time and conclude a more timely and precise treatment action. With contributions from international experts, the book presents the state-of-the-art in the development of the virtual human physiome in three areas: anatomical; physiological; and behavioral. This is followed by a discussion of current applications in: practice-personalized care; research; and education. With this two-fold research agenda aimed at assimilating the various resources needed to complete the virtual human, the book extends the integrated, interoperable capabilities to further research and development, augment education and training, and advance patient care"--Provided by publisher.