

1. Record Nr.	UNINA9910350309403321
Autore	Smith David W
Titolo	Articular Cartilage Dynamics [[electronic resource] /] / by David W. Smith, Bruce S. Gardiner, Lihai Zhang, Alan J. Grodzinsky
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
ISBN	981-13-1474-8
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (lxiii, 738 pages)
Disciplina	611.0183
Soggetti	Biomedical engineering Medical physics Biomedical Engineering and Bioengineering Medical and Radiation Physics Regenerative Medicine/Tissue Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction to Articular Cartilage -- Cartilage tissue homeostasis -- Cartilage tissue dynamics -- Lubrication, Friction and Wear in Diarthroidal Joints -- A systems approach to articular cartilage -- Theory for modeling articular cartilage -- Computational modeling of articular cartilage.
Sommario/riassunto	This book explains the anatomy and physiology of cartilage tissue in an integrated way. The emphasis is on how cartilage tissue functions and maintains homeostasis in a challenging mechanical environment. Supported by hundreds of references, the book posts new hypotheses explaining how cartilage adapts and achieves homeostasis in vivo, and tests them against available data. This exploratory approach creates a sense of discovery that the reader can join, or perhaps test themselves through their own research. The main benefit will be obtained by research students and professors looking to understand the deeper concepts that will further their own research, or clinicians (including health professionals and surgeons) who want to gain a deeper physiological understanding of cartilage tissue, which can then serve as a basis for more rational clinical decision-making they need to make on a daily basis. To help bridge the gap between basic science and

clinically relevant joint disease, applications and interpretations of key physiological concepts are discussed in the context of osteoarthritis at the end of most chapters.
