Record Nr. UNINA9910337629903321 Autore Schmitt Kai-Uwe **Titolo** Trauma Biomechanics : An Introduction to Injury Biomechanics / / by Kai-Uwe Schmitt, Peter F. Niederer, Duane S. Cronin, Barclay Morrison III, Markus H. Muser, Felix Walz Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2019 3-030-11659-X ISBN Edizione [5th ed. 2019.] Descrizione fisica 1 online resource (XVIII, 287 p. 128 illus.) Disciplina 617.1028 Soggetti Biomedical engineering Mechanics Mechanics, Applied Medical jurisprudence Pathology Automotive engineering Biomedical Engineering and Bioengineering Solid Mechanics Forensic Medicine Automotive Engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Introduction -- Methods in Trauma Biomechanics -- Head Injuries --Spinal Injuries -- Thoracic Injuries -- Abdominal Injuries -- Injuries of the Pelvis and the Lower Extremities -- Injuries of the Upper Extremities -- Impairment and injuries resulting from chronic mechanical exposure -- Ballistic and Blast Trauma -- Solutions to exercises. Sommario/riassunto This well-established book on injury biomechanics has been extensively revised and expanded for this new edition. It now includes a fundamental treatment of the mechanics at a cellular level, written by

the new coauthor Prof. Barclay Morrison III from Columbia University.

Furthermore, considerably more attention is paid to computer modeling, and in particular modeling the human body. The book

addresses a wide range of topics in injury biomechanics, including anatomy, injury classification, injury mechanisms, and injury criteria. Further, it provides essential information on regional injury reference values, or injury criteria, that are either currently in use or proposed by both US and European communities. Although the book is intended as an introduction for doctors and engineers who are newcomers to the field of injury biomechanics, sufficient references are provided for those who wish to conduct further research, and even established researchers will find it useful as a reference guide to the biomechanical background of each proposed injury mechanism and injury criterion.