

1. Record Nr.	UNINA9910821620903321
Autore	Bertram John Edward Arthur <1954->
Titolo	Understanding mammalian locomotion : concepts and applications // John E. A. Bertram
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley Blackwell, , 2016 ©2016
ISBN	1-119-11373-3 1-119-11372-5
Descrizione fisica	1 online resource (550 p.)
Classificazione	SCI008000
Disciplina	591.5/7
Soggetti	Animal locomotion Mammals - Physiology Locomotion - Regulation - Physiological aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Machine generated contents note: List of Contributors Preface 1. Concepts through time: Historical perspectives on mammalian locomotion John E. A. Bertram 2. Considering gaits: Descriptive approaches John E. A. Bertram 3. Muscles as actuators Anne K. Gutmann, John E. A. Bertram 4. Concepts in locomotion: Levers, struts, pendula and springs John E. A. Bertram 5. Concepts in locomotion: Wheels, spokes, collisions and insight from the center of mass John E. A. Bertram 6. Reductionist models of walking and running Part 1: Bipedal locomotion and the "Ultimate cost of legged locomotion" Part 2: Quadrupedal locomotion James R. Usherwood 7. Whole body mechanics: how leg compliance shapes the way we move A. Seyfarth, H. Geyer, S. Lipfert, J. Rummel, Y. Blum, M. Maus and D. Maykranz 8. The most important feature of an organism's biology: Dimension, similarity and scale John E. A. Bertram 9. Accounting for the influence of animal size on biomechanical variables: concepts and considerations Sharon Bullimore 10. Locomotion in Small Tetrapods: Size-Based Limitations to "Universal Rules" in Locomotion Audrone Biknevičius, Stephen M. Reilly and Elvidin Kljuno 11. Non-steady locomotion Monica A. Daley 12. The evolution of terrestrial locomotion in bats: the bad, the ugly, and the

good Daniel K. Riskin, John E. A. Bertram, John W. Hermanson 13. The Fight or Flight Dichotomy: Functional Tradeoff in Specialization for Aggression Versus Locomotion David R. Carrier 14. Design for prodigious size without extreme body mass: Dwarf elephants, differential scaling and implications for functional adaptation John E. A. Bertram 15. Basic mechanisms of bipedal locomotion: head-supported loads and strategies to reduce the cost of walking James R. Usherwood and John E.A. Bertram 16. Would a horse on the moon gallop? Directions available in locomotion research (and how not to spend too much time exploring blind alleys) John E. A. Bertram Index .

Sommario/riassunto

"Understanding Mammalian Locomotion will formally introduce the emerging perspective of collision dynamics in mammalian terrestrial locomotion and explain how it influences the interpretation of form and functional capabilities. The objective is to bring the reader interested in the function and mechanics of mammalian terrestrial locomotion to a sophisticated conceptual understanding of the relevant mechanics and the current debate ongoing in the field"--

"This book will formally introduce the emerging perspective of collision dynamics in mammalian terrestrial locomotion and explain how it influences the interpretation of form and functional capabilities"

--
