

Contents

1 Computational Paleontology	1
Ashraf M.T. Elewa	
2 Digitizing Methods for Paleontology: Applications, Benefits and Limitations	7
Heinrich Mallison	
3 Paleoinformatics: Past, Present and Future Perspectives	45
Jane K. Dolven and Hans Skjerpen	
4 Calculating the Tempo of Morphological Evolution: Rates of Discrete Character Change in a Phylogenetic Context	53
Stephen L. Brusatte	
5 Computational Model of Growth and Development in Paleozoic Echinoids	75
Louis G. Zachos and James Sprinkle	
6 Morphometric Analysis of Polyphenism in Lower Cretaceous Ammonite Genus <i>Knemiceras</i>	95
Richard A. Reyment	
7 Development and Applications of Computed Tomography in the Study of Human Fossil Crania	111
Eva María Poza-Rey and Juan Luis Arsuaga	
8 From a Skeleton to a 3D Dinosaur	147
Stefan Stoinski	

9	Rates of Cranial Evolution in Neandertals and Modern Humans	165
	Timothy D. Weaver	
10	The Problem of Instar Numbers in Arthropods	179
	Panos V. Petrakis	
11	Future Insights in Computational Paleontology: With Special Spotlight on Visual Paleontology	221
	Ashraf M.T. Elewa	
	Index	225