## BIOMIMETICS IN ARCHITECTURE ARCHITECTURE OF LIFE AND BUILDINGS

PETRA GRUBER

SpringerWienNewYork

## **CONTENT**

1	1 Introduction		7	
2	Background		9	
	2.1 2.2 2.3	Architecture Bionics [Bionik] Biomimetics Transfer and methods	9 13 41	
3	Classical approaches to investigate overlaps between biology and architecture		50	
	3.1 3.2 3.3 3.4 3.5	Relationship between nature and architecture "Natural construction" Nature's design principles Parallels, differences and synergies between design in nature and in architecture Biomimetics in construction and architecture	51 54 96 108 109	
4	New approaches and application of biology's life criteria on architecture		110	
	4.1 4.2 4.3 4.4	Life, biology Architectural interpretation of life criteria Comments and hitherto unexplored fields A living architecture	110 124 191 194	
5	Case studies		196	
	5.1 5.2 5.3 5.4	Adaptation and evolution of traditional architecture on Nias Island Transformation Architecture Lunar Exploration Architecture Biomimetic Design Proposals	196 243 247 254	
6	Discussion		262	
	6.1 6.2	Transfer strategies and methods Suggestions	262 263	
7	' Appendix		264	
	7.1 7.2	Literature Figures and Photography	264 270	