

Contents

INTRODUCTION.....	3
<i>M. Santana Quintero</i>	
1 ARCHAEOLOGICAL AND GEOMATICS NEEDS	
1.1 3D modelling in archaeology and cultural heritage – Theory and best practice.....	7
<i>S. Campana</i>	
1.2 Geomatics and cultural heritage	13
<i>F. Remondino</i>	
1.3 3D modelling and shape analysis in archaeology	15
<i>J.A. Barceló</i>	
2 AERIAL AND TERRESTRIAL LASER SCANNING	
2.1 Airborne laser scanning for archaeological prospection	25
<i>R. Bennett</i>	
2.2 Terrestrial optical active sensors – Theory and applications.....	37
<i>G. Guidi</i>	
3 PHOTOGRAMMETRY	
3.1 Photogrammetry – Basic theory	63
<i>F. Remondino</i>	
3.2 UAV: platforms, regulations, data acquisition and processing	73
<i>F. Nex and F. Remondino</i>	
4 REMOTE SENSING	
4.1 Exploring archaeological landscapes with satellite imagery	89
<i>N. Galiatsatos</i>	
5 GIS	
5.1 2D & 3D GIS and web-based visualization	101
<i>G. Agugiaro</i>	

6 VIRTUAL REALITY AND CYBERARCHAEOLOGY

- 6.1 Virtual reality, cyberarchaeology, teleimmersive archaeology 113
M. Forte

- 6.2 Virtual reality and cyberarchaeology – virtual museums 129
S. Pescarin

7 CASE STUDIES

- 7.1 3D data capture, restoration and online publication of sculpture 137
B. Frischer

- 7.2 3D GIS for Cultural Heritage sites: the QueryArch3D prototype 145
G. Agugiaro and F. Remondino

- 7.3 The use of 3D models for intra-site investigation in archaeology 151
N. Dell'Unto

- 7.4 Airborne laser scanning for archaeological prospection – a Case Study
in the use of archive ALS data from the Salisbury Plain Wiltshire, UK 159
R. Bennett, K. Welham, A. Ford and R.A. Hill

- QUESTIONS AND ANSWERS FOR SELF-EVALUATION 167