

Table of contents

Abstract.....	i
Kurzfassung.....	v
1. Introduction.....	1
1.1 Motivation and goals	1
1.2 Structure of the thesis.....	3
2. Scientific background	7
2.1 Bone tissue engineering scaffolds.....	7
2.2 Bioceramics materials for bone tissue engineering scaffolds	9
2.3 Additive manufacturing technologies for scaffold fabrication	14
3. High-performance bioceramic scaffolds.....	21
3.1 High performing additively manufactured bone scaffolds based on copper doped diopside	21
3.2 Enhanced mechanical performance and bioactivity in strontium/copper co-substituted diopside scaffolds.....	37
4. Additive manufacturing and performance of bioceramic scaffolds with different hollow strut geometries	51
5. Osteomimetic bioceramic scaffolds with high-fidelity human-bone features produced by rotational printing	77
6. Conclusions and outlook.....	107
References.....	115
Symbols and abbreviations	135
Acknowledgments.....	139