

1. Record Nr.	UNINA9910350345303321
Autore	Sing Swee Leong
Titolo	Selective Laser Melting of Novel Titanium-Tantalum Alloy as Orthopaedic Biomaterial // by Swee Leong Sing
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
ISBN	981-13-2724-6
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (110 pages)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	620.189322
Soggetti	Biomaterials Manufactures Biomedical engineering Manufacturing, Machines, Tools, Processes Biomedical Engineering/Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Literature review -- Materials and characterisation methods -- Formation of titanium-tantalum alloy using selective laser melting -- Characterisation of selective laser melting titanium-tantalum alloy -- Statistical modelling of selective laser melting of cellular lattice structures -- Characterisation of titanium-tantalum lattice structures fabricated using selective laser melting -- Conclusions and future work.
Sommario/riassunto	This book investigates the microstructural and mechanical properties of titanium-tantalum (TiTa) alloy formed using selective laser melting (SLM). TiTa has potential orthopaedic biomedical applications thanks to its high strength to modulus ratio. However, because it is difficult to obtain, it is still not widely used. The book describes how SLM is utilized to form this alloy, and provides a better understanding of the SLM process in porous lattice structure fabrication and its control through statistical modelling.