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5.7 Electrochemical aspects; 5.8 Fabrication of components; 5.9 Trends in applications of magnesium alloys; Further reading; Chapter 6. Titanium alloys; 6.1 Introduction; 6.2 a-alloys; 6.3 a /b alloys; 6.4 b-alloys; 6.5 Fabrication; 6.6 Titanium alloy castings; 6.7 Engineering performance; 6.8 Applications of titanium alloys; Further reading Chapter 7. Novel materials and processing methods7.1 Composites; 7.2 Metallic Foams; 7.3 Rapid solidification processing; 7.4 Quasicrystals; 7.5 Amorphous alloys; 7.6 Mechanical alloying; 7.7 Physical vapour deposition; 7.8 Nanophase alloys; 7.9 Titanium aluminides; Further reading; Appendix; Index

Sommario/riassunto

The definitive overview of the science and metallurgy of aluminum, magnesium, titanium and beryllium alloys, this is the only book available covering the background materials science, properties, manufacturing processes and applications of these key engineering metals in a single accessible volume. Use of these metals is now more widespread than ever, and they are routinely found in motor vehicles and aircraft. New material includes materials characteristics and applications; heat treatment properties; fabrication; microstructure/property relationships; new applications and processes. *

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Titolo	Bioceramics . Volume 25 : selected, peer reviewed papers from the 25th Symposium and Annual Meeting of the International Society for Ceramics in Medicine (ISCM), Bucharest, Romania, 7-10 November, 2013 / / edited by Iulian Antoniac, University Politehnica of Bucharest, Romania, Simona Cavalu, University of Oradea, Romania, Teodor Traistaru, University of Medicine and Pharmacy "Carol Davila" Bucharest, Romania
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TCP Foams as Precursors; Synthesis of Ag-Containing CaO-SiO2 Gel and its Apatite Forming Ability in Simulated Body Fluid; III. Calcium Phosphates
Comparative Critical Study of Commercial Calcium Phosphate Bone Substitutes in Terms of Physic-Chemical PropertiesPhosphating of Calcium Carbonate for Obtaining Hydroxyapatite from the Ostrich Egg Shell; Charge State of Silver Halide Colloids Determines the Antibacterial Activity in Amorphous Calcium Phosphate; Nano Calcium Phosphate Powder Production through Chemical Agitation from Atlantic Deer Cowrie Shells (Cypraea cervus Linnaeus)
Synthesis of Nano Calcium Phosphate via Biomimetic Method for Bone Tissue Engineering Scaffolds and Investigation of its Phase Transformation in Simulated Body FluidMicroporous ß-Tricalcium Phosphate (TCP) - A Delivery Vehicle of Growth Factors and Drugs; Traversing Phase Fields towards Nanosized Beta Tricalcium Phosphate; IV. Characterization & Testing; rhBMP-2 Induces Immature Muscular Tissue to Differentiate into Bone-Like Tissue In Vitro; In Situ X-Ray Diffraction Study of Phase Development during Hardening of -Tricalcium Phosphate Bone Cements with Chitosan
Preparation and Characterization of Micro-Nanostructured Anatase FilmStudy of some Dental Biomaterials Properties Using an Original Software Application; Production and Characterization of Hydroxyapatite/Niobo Phosphate Glass Scaffold; Influence of Nanograin Size ZrO2 and Al2O3 Ceramics on Biological Response of Cells; V. Synthesis & Biomanufacturing; Novel Bioactive Materials neither Based on Calcium Phosphate Nor Silicate: Titanium Oxide; Production and Mechanical Properties of Commercial Synthetic Hydroxyapatite (CSHA) Composites
Nanoparticles for Biomedical Applications Prepared by CO2 Laser Vaporization

Sommario/riassunto

This book includes papers collected for the 25th Symposium and Annual Meeting of the International Society for Ceramics in Medicine (BIOCERAMICS 25), held in Bucharest, Romania, from 7-10 November, 2013. The papers were selected by reviewing the full papers of authors whose abstracts submitted to the Symposium were accepted after a blind peer-reviewing process, and reflected the most recent progress made in the study of bioceramics and their applications in medicine. The papers are focused not just on synthesis, processing and characterization of bioceramics, but also on surface modification,