



*metals*



*Special Issue Reprint*

## **Failure Analysis of Biometals**

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Metallic biomaterials (biometals) are widely used for the manufacture of medical implants, ranging from load-bearing orthopaedic prostheses to dental and cardiovascular implants, because of their favourable combination of properties, including high strength, fracture toughness, biocompatibility, and wear and corrosion resistance. Owing to the significant consequences of implant material failure/degradation, in terms of both personal and financial burden, failure analysis of biometals has always been of paramount importance in order to understand the failure mechanisms and implement suitable solutions with the aim to improve the longevity of implants in the body. Failure Analysis of Biometals presents some of the latest developments and findings in this area. This includes a great range of common metallic biomaterials (Ti alloys, CoCrMo alloys, Mg alloys, and NiTi alloys) and their associated failure mechanisms (corrosion, fatigue, fracture, and fretting wear) that commonly occur in medical implants and surgical instruments.



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