

Diamond-based materials for biomedical applications

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20426919&lokasi=lokal>

Abstrak

Carbon is light-weight, strong, conductive and able to mimic natural materials within the body, making it ideal for many uses within biomedicine. Consequently a great deal of research and funding is being put into this interesting material with a view to increasing the variety of medical applications for which it is suitable. Diamond-based materials for biomedical applications presents readers with the fundamental principles and novel applications of this versatile material.

Part one provides a clear introduction to diamond based materials for medical applications.

Functionalization of diamond particles and surfaces is discussed, followed by biotribology and biological behaviour of nanocrystalline diamond coatings, and blood compatibility of diamond-like carbon coatings.

Part two then goes on to review biomedical applications of diamond based materials, beginning with nanostructured diamond coatings for orthopaedic applications. Topics explored include ultrananocrystalline diamond for neural and ophthalmological applications, nanodiamonds for drug delivery systems, and diamond nucleation and seeding techniques for tissue regeneration. Finally, the book concludes with a discussion of diamond materials for microfluidic devices.