

The surface modification of biomaterials plays a significant role in determining the outcome of biological interactions. With the appropriate modification, a material's surface can be tailored to improve biocompatibility, adhesion and cell interactions. Consequently, surface modification is vital in the development and design of new biomaterials and medical devices. *Surface modification of biomaterials* reviews both established surface modification technologies and those still in the early stages of research, and discusses how they can be used to optimise biological interactions and enhance clinical performance.

Part I begins with chapters looking at various types and techniques of surface modification – including plasma polymerisation, covalent binding of poly(ethylene glycol) (PEG), heparinisation, peptide functionalisation and calcium phosphate deposition – before going on to examine metal surface oxidation and the role of biomaterial surface topography in controlling cellular response, with particular reference to relevant technologies, cell behaviour and biomedical applications. Part II studies the analytical techniques and applications of surface modification with chapters on analysing biomaterial surface chemistry, surface structure, morphology and topography; subsequent chapters in this section discuss the modification of biomaterial surfaces to optimise interactions with blood, control infection, optimise interactions with soft tissues, repair and regenerate nerve cells, control stem cell growth and differentiation, and optimise interactions with bone.

The distinguished editor and international team of contributors to *Surface modification of biomaterials* have produced a unique overview and detailed chapters on a range of surface modification techniques which will provide an excellent resource for biomaterials researchers, and scientists and engineers concerned with improving the properties of biomaterials. It will also be beneficial for academics researching surface modification.

Dr Rachel Williams is a Reader in Clinical Engineering at the University of Liverpool, UK. She is well regarded for her biomaterials research, particularly her work on ophthalmic biomaterials.

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