

# Preface

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The medical device and drug industries are consistently among the strongest technological performers. Materials are a key ingredient in their dynamic growth. Development of these materials is in a constant state of activity, with the challenge of replacing old materials that cannot withstand the tests of time, and the new materials' needs coming to the forefront in modern applications. This new reference text, *Biomaterials Engineering and Devices: Human Applications*, focuses on materials used in or on the human body—materials that define the world of “biomaterials.”

*Biomaterials Engineering and Devices: Human Applications* focuses on materials development and characterization. Chapters deal with issues in the selection of proper biomaterials from biocompatibility to biostability to structure/function relationships. Chapters also focus on the use of specific biomaterials based on their physiochemical and mechanical characterizations. Integral to these chapters are discussions of

standards in analytical methodology and quality control.

The users of *Biomaterials Engineering and Devices: Human Applications* will represent a broad base of backgrounds ranging from the basic sciences (e.g., polymer chemistry and biochemistry) to more applied disciplines (e.g., mechanical/chemical engineering, orthopedics, and pharmaceuticals). To meet varied needs, each chapter provides clear and fully detailed discussions. This in-depth, but practical, coverage should also assist recent inductees to the biomaterials circle. The editors trust that this reference textbook conveys the intensity of this fast moving field in an enthusiastic presentation.

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