

# Preface

The last years have lead to major progress in the field of biomaterials science and medical devices. Increasing the biofunctionality and the life expectancy for medical devices according to the clinical needs became priority. The research trends like the development of new biomaterials and the improvment for medical devices design, starting with retrival analysis of failed implants try to respond to these demands. Modern approaches attracted major changes like advancing from tissue replacement to regeneration, from micro- to nano-scale, and from inert to bioactive materials.

This proceeding is devoted to current trends and developments in the field of biomaterials, tissue engineering and medical devices. This volume targets basic research and developments ranging from experimental and theoretical aspects about biomaterials to final applications of biomaterials in orthopedics and dentistry. The papers presented in this volume represent the extended versions of lectures presented at the 5th International Conference „Biomaterials, Tissue Engineering & Medical Devices” 2012 (29th August – 1st September, Constanta, Romania).

We hope that this proceeding will serve as a reference volume consisting of high quality research papers for researchers in the field of biomaterials, medical devices and bioengineering. Experts in the field of biomaterials and bioengineering have been extremely helpful and have refereed the papers presented in this volume. We wish to thank them for their reviews and the authors for submitting their research papers.

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