

Medical Device Materials V

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Dr. Jeremy Gilbert

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PREFACE

This publication, *Materials and Processes for Medical Devices*, is a compilation of research that was presented at the ASM International sponsored conference of the same name held in Minneapolis, Minnesota, August 10–12, 2009.

This was the 5th MPMD conference presented by ASM to focus on the materials used in medical devices. This conference brought the perspectives of industrial, academic, national laboratory and clinical researchers together, seeking to develop and/or understand materials for medical devices. This focus on real applications, real devices and real materials issues for medical devices has set ASM International apart from other materials organizations in the realm of biomaterials. The focus areas of this conference, including processing, structure and properties of biomaterials, surfaces of biomaterials, degradation, wear, fracture and fatigue, etc., are all critical elements of any medical device design and will continue to be the focus of research into new technologies and materials.

ASM has now established itself as a venue for learning about research on medical materials used in actual medical devices and the complex interactions at play between device materials and the biological environment. There are outstanding papers focused on fabrication, fatigue, corrosion, tissue biocompatibility, cell-surface interactions, regulatory issues, shape memory alloys and a host of other cutting edge efforts. This proceeding will provide the academic translational researcher, the industrial researcher and the regulatory scientist with state-of-the-art understanding in medical device material performance and the advancement of new technologies associated with the manufacture and use of medical devices.

I would like to thank the organizing committee for their diligent and dedicated assistance in promoting and developing this conference and in preparing this publication. I would also like to thank ASM staff for doing an outstanding job at all stages of this process in assisting and coordinating the conference and these proceedings. This conference was a success, in part, because of the sponsors and their efforts, and because of all of the contributors who presented their work. It is my firm belief that the MPMD conference will see many more successes into the future as we continue to focus on medical devices and the materials from which they are made.

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