

# Table of Contents

<b>Preface</b> .....	ix
<b>Acknowledgment</b> .....	xii
<b>Chapter 1</b> Functional Surfaces in Mechanical Systems: Classification, Fabrication, and Characterisation.....	1
<i>Alessandro Godi, Technical University of Denmark, Denmark</i>	
<i>Leonardo De Chiffre, Technical University of Denmark, Denmark</i>	
<b>Chapter 2</b> Design and Selection of Chemically Deposited Ni-P-W Coatings for Optimum Tribological Behavior .....	45
<i>Prasanta Sahoo, Jadavpur University, India</i>	
<i>Supriyo Roy, Jadavpur University, India</i>	
<i>J. Paulo Davim, University of Aveiro, Portugal</i>	
<b>Chapter 3</b> Surface Engineering Techniques and Applications: Research Advancements ....	73
<i>Dharam Persaud-Sharma, Florida International University, USA</i>	
<b>Chapter 4</b> Surface Engineering by Friction Stir Processing and Friction Surfacing .....	102
<i>K. Surekha, University of Johannesburg, South Africa</i>	
<i>E.T. Akinlabi, University of Johannesburg, South Africa</i>	

<b>Chapter 5</b>	
Improving Surface Integrity Using Laser Metal Deposition Process .....	146
<i>Rasheedat M. Mahamood, University of Johannesburg, South Africa</i>	
<i>&amp; University of Ilorin, Nigeria</i>	
<i>Esther T. Akinlabi, University of Johannesburg, South Africa</i>	
<i>Mukul Shukla, University of Johannesburg, South Africa</i>	
<i>&amp; MNNIT Allahabad, India</i>	
<i>Sisa Pityana, National Laser Centre, South Africa</i>	
<b>Chapter 6</b>	
Application of Laser Assisted Cold Spraying Process for Materials Deposition .....	177
<i>Monnamme Tlotleng, University of Johannesburg, South Africa</i>	
<i>&amp; National Laser Centre, South Africa</i>	
<i>Esther T. Akinlabi, University of Johannesburg, South Africa</i>	
<i>Mukul Shukla, University of Johannesburg – Doornfontein, South Africa</i>	
<i>&amp; MNNIT Allahabad, India</i>	
<i>Sisa Pityana, Tshwane University of Technology, South Africa</i>	
<i>&amp; National Laser Centre, South Africa</i>	
<b>Chapter 7</b>	
Laser Additive Manufacturing in Surface Modification of Metals .....	222
<i>Rasheedat M. Mahamood, University of Johannesburg, South Africa</i>	
<i>&amp; University of Ilorin, Nigeria</i>	
<i>Mukul Shukla, University of Johannesburg – Doornfontein, South Africa</i>	
<i>&amp; MNNIT Allahabad, India</i>	
<i>Sisa Pityana, National Laser Centre, South Africa</i>	
<b>Chapter 8</b>	
Surface Characterization in Fused Deposition Modeling .....	249
<i>Alberto Boschetto, University of Rome “La Sapienza”, Italy</i>	
<i>Luana Bottini, University of Rome “La Sapienza”, Italy</i>	
<b>Chapter 9</b>	
Surface Modification and Structure Control for Nano- and Fine-Particle Aggregation and Adhesion Behaviour Control in Liquid Phase .....	281
<i>Hidehiro Kamiya, Tokyo University of Agriculture and Technology, Japan</i>	
<b>Compilation of References</b> .....	306
<b>About the Contributors</b> .....	339
<b>Index</b> .....	344