

Contents

Chapter 1.....	1
Deposition Processes and Properties of Coatings on Steel Fasteners – A Review <i>by Ping Ping Chung, James Wang and Yvonne Durandet</i>	
Chapter 2.....	53
Tailored Polyurethane Acrylate Blend for Large-Scale and High-Performance Micropatterned Dry Adhesives <i>by Dan Yu, René Hensel, Dirk Beckelmann, et al.</i>	
Chapter 3.....	75
Review of Materials Used in Laser-Aided Additive Manufacturing Processes to Produce Metallic Products <i>by Xiaodong Niu, Surinder Singh, Akhil Garg, et al.</i>	
Chapter 4.....	111
Investigating the Impact of Additive Manufacturing Data Exchange Standards for Redistributed Manufacturing <i>by Eujin Pei, Malte Ressin, R. I. Campbell, et al.</i>	
Chapter 5.....	141
Design and Manufacturing Strategies for Fused Deposition Modelling in Additive Manufacturing: A Review <i>by Hugo I. Medellin-Castillo and Jorge Zaragoza-Siqueiros</i>	
Chapter 6.....	175
A Design Framework for Additive Manufacturing <i>by H. Bikas, A. K. Lianos and P. Stavropoulos</i>	

Chapter 7.....	199
Wire-Arc Additive Manufacturing of a Duplex Stainless Steel: Thermal Cycle Analysis and Microstructure Characterization <i>by Vahid A Hosseini, Mats Höglström, Kjell Hurtig, et al.</i>	
Chapter 8.....	225
Recent Advances in the Reconstruction of Cranio-Maxillofacial Defects Using Computer-Aided Design/Computer-Aided Manufacturing <i>by Ji-hyeon Oh</i>	
Chapter 9.....	241
A Bibliometric Method for Assessing Technological Maturity: The Case of Additive Manufacturing <i>by René Lezama-Nicolás, Marisela Rodríguez-Salvador, Rosa Río-Belver, et al.</i>	
Chapter 10.....	283
Additive Manufacturing of Cemented Tungsten Carbide with a Cobalt-Free Alloy Binder by Selective Laser Melting for High-Hardness Applications <i>by Nicholas Ku, John J. Pittari III, Steven Kilczewski, et al.</i>	
Chapter 11.....	299
Microstructure and Mechanical Properties of CMSX-4 Single Crystals Prepared by Additive Manufacturing <i>by C. Korner, M. Ramsperger, C. Meid, et al.</i>	
Chapter 12.....	321
Additive Manufacturing of Catalyst Substrates for Steam–Methane Reforming <i>by Michelle Kramer, Millie McKelvie and Matthew Watson</i>	
Chapter 13.....	351
Additive Manufacturing by Means of Laser-Aided Directed Metal Deposition of Titanium Wire <i>by Fabrizia Caiazza</i>	

Chapter 14.....	369
Low Cost Additive Manufacturing of Microneedle Masters <i>by Ashley R. Johnson and Adam T. Procopio</i>	
Chapter 15.....	393
Feasibility of Designing, Manufacturing and Delivering 3D Printed Ankle-Foot Orthoses: A Systematic Review <i>by Elizabeth Wojciechowski, Angela Y. Chang, Daniel Balassone, et al.</i>	
Chapter 16.....	417
Evolutionary Modular Robotics: Survey and Analysis <i>by Reem J. Alattas, Sarosh Patel and Tarek M. Sobh</i>	
Chapter 17.....	449
Use of 3D Mesh Geometries and Additive Manufacturing in Neutron Beam Experiments <i>by László Szentmiklósi, Boglárka Maróti, Zoltán Kis, et al.</i>	
Chapter 18.....	461
Edible Protein Production by Filamentous Fungi Using Starch Plant Wastewater <i>by Pedro F. Souza Filho, Akram Zamani and Mohammad J. Taherzadeh</i>	
Chapter 19.....	483
Manufacturing Fit-For-Purpose Paper Packaging Containers with Controlled Biodegradation Rate by Optimizing Addition of Natural Fillers <i>by Anna Sandak, Jakub Sandak and Izabela Modzelewska</i>	
Chapter 20.....	513
Design and Field Evaluation of a Ground Robot for High-Throughput Phenotyping of Energy Sorghum <i>by Sierra N. Young, Erkan Kayacan and Joshua M. Peschel</i>	

Chapter 21.....	551
Co-Designing a Digital Platform with Boundary Objects: Bringing Together Heterogeneous Users in Healthcare <i>by Anna Sigridur Islind, Tomas Lindroth, Johan Lundin, et al.</i>	
Chapter 22.....	583
Microneedle Array Sensors Based on Carbon Nanoparticle Composites: Interfacial Chemistry and Electroanalytical Properties <i>by Catherine Hegarty, Stephen McKillop, Ruairi J. McGlynn, et al.</i>	
Chapter 23.....	601
Exploration of 3D Printing to Create Zero-Waste Sustainable Fashion Notions and Jewelry <i>by Anupama Pasricha and Rachel Greeninger</i>	
Chapter 24.....	627
The Cost Calculation Method of Construction 3D Printing Aligned with Internet of Things <i>by Hongxiong Yang, Jacky K. H. Chung, Yuhong Chen, et al.</i>	
Chapter 25.....	643
Skin Bioprinting: The Future of Burn Wound Reconstruction? <i>by Mathew Varkey, Dafydd O. Visscher, Paul P. M. van Zuijlen, et al.</i>	
Chapter 26.....	669
Determination of Surface Roughness in Wire and Arc Additive Manufacturing Based on Laser Vision Sensing <i>by Jun Xiong, Yan-Jiang Li, Zi-Qiu Yin, et al.</i>	
Chapter 27.....	687
Thermal Diffusivity Measurement of Ceramic Materials Used in Spraying of TBC Systems <i>by Grzegorz Moskal, Marta Mikuśkiewicz and Anna Jasik</i>	

Chapter 28.....703

Customized Tracheal Design Using 3D Printing of a Polymer Hydrogel:

Influence of UV Laser Cross-Linking on Mechanical Properties

by Ana Filipa Cristovão, David Sousa, Filipe Silvestre, et al.

Chapter 29.....725

Design and Applications of Stretchable and Self-Healable

Conductors for Soft Electronics

by Yue Zhao, Aeree Kim, Guanxiang Wan, et al.

Chapter 30.....773

Pilot Capability Evaluation of a Feedback Electronic Imaging

System Prototype for In-Process Monitoring in Electron

Beam Additive Manufacturing

by Hay Wong, Derek Neary, Eric Jones, et al.