

# Contents

## Part I Modern Machining

- 1 Fabrication of Micro-cutting Tools for Mechanical Micro-machining** . . . . . 3  
M. Ganesh, Ajay Sidpara and Sankha Deb
- 2 Machining of Glass Materials: An Overview.** . . . . . 23  
Asma Perveen and Carlo Molardi
- 3 Thermal-Assisted Machining of Titanium Alloys** . . . . . 49  
O.A. Shams, A. Pramanik and T.T. Chandratilleke
- 4 Abrasive Water Jet Machining of Composite Materials.** . . . . . 77  
Sumit Bhowmik, Jagadish and Amitava Ray

## Part II Advanced Repair and Joining

- 5 Advanced Joining and Welding Techniques: An Overview** . . . . . 101  
Kush Mehta
- 6 Laser-Based Repair of Damaged Dies, Molds, and Gears** . . . . . 137  
Sagar H. Nikam and Neelesh Kumar Jain
- 7 Friction Stir Welding—An Overview.** . . . . . 161  
Arun Kumar Shettigar and M. Manjaiah
- 8 Ultrasonic Spot Welding—Low Energy Manufacturing for Lightweight Fuel Efficient Transport Applications** . . . . . 185  
Farid Haddadi

## Part III Sustainable Manufacturing

- 9 Perspectives on Green Manufacturing** . . . . . 213  
Varinder Kumar Mittal

**10 Experimental Investigation and Optimization  
on MQL-Assisted Turning of Inconel-718 Super Alloy. . . . . 237**  
Munish K. Gupta, P.K. Sood, Gurraj Singh and Vishal S. Sharma

**11 Dry and Near-Dry Electric Discharge Machining Processes . . . . . 249**  
Krishnakant Dhakar and Akshay Dvivedi

**12 Laser Metal Deposition Process for Product Remanufacturing . . . . 267**  
Rasheedat M. Mahamood, Esther T. Akinlabi and Moses G. Owolabi

**Index . . . . . 293**

Advanced Manufacturing Technologies

Modern Machining, Advanced Joining, Sustainable  
Manufacturing

Gupta, K. (Ed.)

2017, VIII, 294 p. 169 illus., 96 illus. in color., Hardcover

ISBN: 978-3-319-56098-4