

Contents

| | |
|---|-----|
| 1 Introduction to Green Manufacturing | 1 |
| David Dornfeld, Chris Yuan, Nancy Diaz, Teresa Zhang, and Athulan Vijayaraghavan | |
| 2 The Social, Business, and Policy Environment for Green Manufacturing | 25 |
| Hazel Onsrud and Rachel Simon | |
| 3 Metrics for Green Manufacturing | 49 |
| Corinne Reich-Weiser, Rachel Simon, Timo Fleschutz, Chris Yuan, Athulan Vijayaraghavan, and Hazel Onsrud | |
| 4 Green Supply Chain | 83 |
| Yifen Chen, Rachel Simon, Corinne Reich-Weiser, and Justin Woo | |
| 5 Principles of Green Manufacturing | 107 |
| Moneer Helu and David Dornfeld | |
| 6 Closed-Loop Production Systems | 117 |
| Athulan Vijayaraghavan, Chris Yuan, Nancy Diaz, Timo Fleschutz, and Moneer Helu | |
| 7 Semiconductor Manufacturing | 153 |
| Sarah Boyd and David Dornfeld | |
| 8 Environmental Implications of Nano-manufacturing | 179 |
| Chris Yuan and Teresa Zhang | |
| 9 Green Manufacturing Through Clean Energy Supply | 203 |
| Chris Yuan | |
| 10 Packaging and the Supply Chain: A Look at Transportation | 223 |
| Rachel Simon and Yifen Chen | |

| | | |
|-----------|---|------------|
| 11 | Enabling Technologies for Assuring Green Manufacturing | 255 |
| | Athulan Vijayaraghavan and Moneer Helu | |
| 12 | Concluding Remarks and Observations About the Future | 269 |
| | David Dornfeld | |
| | Index | 287 |